

## ICC Head Asks for Outright Repeal of Transportation Tax

**Opportunity Grows  
For Ending Freight  
Excise Measure**

By JOHN CIPPERLY  
Croplife Washington Correspondent

WASHINGTON — The Interstate Commerce Commission has thrown its weight behind the outright repeal of the transportation excise tax on freight.

In an appearance before the Senate Interstate Commerce Subcommittee, Howard G. Freas, ICC chairman, went all out to put in public light the objections to this wartime measure, which was imposed primarily to discourage unnecessary freight shipments but has since become an outright revenue measure.

Heretofore, the ICC has pointed out in less widely publicized state-

(Turn to ICC, page 21)

## Fertilization of Forest Soils Is Conference Topic

SONORA, CAL.—A forest fertilization research program for California was proposed at the recent forest soils fertilization conference held here under the sponsorship of the National Plant Food Institute and the California Fertilizer Assn.

The proposal was made by Dr. Edward C. Stone, assistant professor of forestry, University of California, Berkeley, who said that "a research program initially limited to two species and 10 soil types would not be expensive and could be highly effective."

"Such a program should make it possible to clearly define and evaluate the potential role of fertilizers in forest management. The data obtained should be immediately useful in the operation of forest nurseries in the state."

If the research program can be financed, it will be carried out under the direction of the school of forestry, University of California.

(Turn to FORESTS, page 8)

## Fertilizer Outlook Still Good Despite Wet Spring Weather

By JOHN CIPPERLY, Croplife Washington Correspondent

WASHINGTON — Fertilizer trade officials here are looking at the outlook for this crop year with genuine enthusiasm. Despite a slow start due to unfavorable weather over a wide area of the country, delaying land preparation and planting in many states, heavy deliveries of fertilizer materials have been noted whenever a break in the rainy weather occurs.

The unduly wet spring has delayed farm commitments, and has prevented many dealers from making truck deliveries to the farm which would normally be in full swing at this time. This in turn has caused a backing up all along the distribution line,

going completely back to the plants of basic manufacturers.

This results in a telescoping of operations at every step in the orderly flow of fertilizer, with a piling up of overtime pay, as plants will ultimately be obliged to produce on a 24-hour day basis to meet the expected demand.

The fertilizer industry is looking at factors beyond the weather, also. The veto of the freeze bill and its probable approval by Congress are regarded by the industry as not likely to upset fertilizer sales in the Midwest. However, in the Southeast where cotton acreages have been cut severely, sources here say that a 5% cutback in fertilizer tonnage is likely.

Also for the first time, there may be a sizeable reduction in tobacco acreage allotments. Communities in the tobacco-growing areas are beginning to feel the pinch in an extreme degree.

But in the midwest corn and wheat areas, losses in other parts of the nation will be more than recaptured, trade sources predict. This forecast comes notwithstanding the reduction in the price support levels for wheat and corn from last year's levels.

In the corn belt, where hogs and livestock form a large component of farming, income prices for those commodities are now extremely favorable and they provide a strong psychological

(Turn to OUTLOOK, page 20)

## USDA Offers to Buy 1,000 Gallons of Spray For Stored Grain

WASHINGTON—The U.S. Department of Agriculture has announced that offers have been requested to supply approximately 1,000 gallons of malathion emulsifiable concentrate for use as a protective spray against insect infestations in Commodity Credit Corp.-owned grain stored in CCC bins.

This quantity will be sufficient to treat approximately 8.5 million bushels of grain. CCC-owned grains stored in bins in Illinois, Indiana, Iowa, Kansas, Minnesota, Missouri, Nebraska, Ohio and South Dakota will be treated.

Offers are due not later than May 2. Details are in announcement Gr-366. Copies and additional information may be obtained from the Grain Division, Commodity Stabilization Service, U.S. Department of Agriculture, Washington 25, D.C. Offers should be submitted to that office.

## Control of Livestock Pests Covered in Final Session of North Central Branch, ESA

ST. LOUIS, MO.—Sections on medical and veterinary entomology, research, biological control, systematics and systemics were held at the Sheraton-Jefferson Hotel here during the final sessions of the 13th annual meeting of the North Central Branch, Entomological Society of America. (Earlier sessions were reported in the March 31st issue of Croplife, page 1.) The meeting began March 26 and continued through the 28th.

A panel discussion on animal systemic insecticides attracted a large group on March 28, with A. W. Lindquist, USDA, as moderator. In his opening remarks, the chairman gave the audience background information on the use of systemics in animals for control of cattle grubs. Some success has been experienced, he reported, but there are still areas in which more information needs to be gained. These lie particularly in timing . . . when to apply and when not to do so in relation to the animal's nearness to slaughter. He said that more needs to be known about the mode of action of systemics within the animal's body.

Dr. G. R. DeFoliart, University of Wyoming, described some of his experiences with systemic insecticides for control of both grubs and lice on livestock. He told of tests involving some 500 animals, wherein the systemic materials were administered orally through feed; injected into the animal, and sprayed on its hide.

Cattle lice, he said, are the number

one winter parasite of cattle. The present methods of controlling these pests is through spraying and dipping, but the need is for an orally-taken compound successful in the control of both grubs and lice. So far, he said, there is no such product that will do both.

After extensive tests with many varieties of pesticides and methods of application, Dr. DeFoliart said that no toxic symptoms have appeared on the treated cattle.

Dr. William M. Rogoff, University of South Dakota, reported that previous tests with systemics for control of

(Turn to ESA, page 17)

### Inside You'll Find

|                                                                                                                      |         |
|----------------------------------------------------------------------------------------------------------------------|---------|
| OVER THE COUNTER: SELLING AND MERCHANDISING TIPS for the salesman who talks to farmers about chemicals . . . . .     | Page 9  |
| WHAT'S NEW; featuring insecticide booklet, fertilizer shanks, miticide, insecticide specimen label, valves . . . .   | Page 10 |
| FARM SERVICE DATA covers recent results from experiment stations in Western states on tests with chemicals . . . . . | Page 12 |
| OSCAR AND PAT fail to see eye to eye on value of advertising signs for pesticides and fertilizer promotion . . . .   | Page 15 |
| INDUSTRY PATENTS and trademarks, review of patents issued March 25 for pesticidal and fertilizer chemicals . .       | Page 18 |
| EDITORIALS . . . . .                                                                                                 | Page 22 |
| MEETING MEMOS . . . . .                                                                                              | Page 23 |
| ADVERTISERS' INDEX . . . . .                                                                                         | Page 23 |

## University of California Expanding Insect Research

DAVIS, CAL.—Three phases of insect research are being expanded at the University of California, Davis, with the addition of new staff members. Studies will be initiated or expanded in the fields of rice pest control, scale insects and resistance of plants to insects, said Richard M. Bohart, vice chairman of the entomology departments at Davis and Berkeley.

Albert A. Crigarick, who recently received his doctor's degree at Davis, is carrying on the rice insect project, with emphasis at present on the rice leaf miner. In cooperation with W. Harry Lange, professor of entomology, he also will work on measures to control vegetable crops insects, particularly those damaging celery.

Studies of the biology and classification of scale insects, including mealybugs, are being started by Howard L. McKenzie, formerly of the California Department of Agriculture in Sacramento. Frank E. Strong will study resistance of plants to insects.





H. E. Graham

**DIVISION MANAGER**—Fort Smith Cotton Oil Co. has announced the appointment of H. E. "Cotton" Graham as fertilizer division manager at Fort Smith, Ark. Mr. Graham had been associated for eight years with the Blytheville Fertilizer Corp., Blytheville, Ark.

### Good Moisture Conditions Boost Wyoming Plantings

CHEYENNE, WYO. — The best moisture conditions in years are spurring Wyoming farmers to boost plantings in corn, spring and winter wheat, sugar beets, potatoes and dry beans. The Wyoming Crop and Livestock Service reports farmers can anticipate very good moisture conditions based on late fall moisture which has improved soil conditions to the highest plane in years.

Winter wheat plantings are estimated at 289,000 acres this year, up 5% over 1957. The figure still is less than the 10-year average.

Plantings of spring wheat also are 5% above last year, with an estimated 44,000 acres slated for seeding. This also is less than average.

Sugar beet and potato acreage this year is expected to exceed both the 1957 and the 10-year average. Potato acreage is forecast at 6,400 acres this year, compared to 5,800 in 1957 and the 6,300-acre average.

Barley and corn plantings also will be up this year, but acreage on oats is seen about the same as 1957. Oats plantings will be about 13% below the 10-year average.

### 1958 Recommendations Issued in USDA Booklet

WASHINGTON — Insecticide recommendations for the control of crop and livestock pests for 1958 have been issued by the entomology research division of the U.S. Department of Agriculture. It is "Agriculture Handbook No. 120" and can be obtained for 55¢ from the superintendent of documents, U.S. government printing office, Washington 25, D.C.

The new book contains recommendations of the entomology research division for the chemical control of insects and mites attacking food, feed, tobacco, and fiber crops and livestock. The information was compiled by the various branches of the division in consultation with the pesticide regulation section of the plant pest control division and the federal extension service, according to Dr. E. F. Knipling, director of the division.

Dr. Knipling emphasizes in his foreword, that the recommendations made are those made by the division. "There are other recommendations and other materials registered for use that will leave no residues within the tolerances set under Public Law 518, the Miller amendment," he says.

"Official tolerances for a number of the older, well-established insecticides have not yet been announced by the Food and Drug Administration, but as they are announced, the Department will review the recommendations and make such changes as are necessary to insure that residues do not exceed tolerances."

"Since the status of many chemicals is changing rapidly and new materials or new uses for older materials are being recommended, we suggest keeping in touch with the USDA, land grant colleges, or manufacturers of specific products for up-to-date information."

Dr. Knipling added that some of the recommendations listed in the handbook have been modified since the publications were issued, and others are new and have not previously appeared. "When the recommendations given in this handbook differ from Entomology Research Division recommendations in other publications, the grower or livestock producer should follow those in the handbook," he said.

The recommendations are limited to the 1958 growing season, it was emphasized.

### Dealer Changes

#### Store Opens

SAN FRANCISCO — The Garden and Farm Supplies Store was opened recently by Robert J. Beck at 4671 E. Terrace in Fresno, Cal.

#### New Retailer

SAN FRANCISCO — The Flying Circle H Nursery opened recently in Loomis, Cal. The new business is operated by Vincent Lopez, George F. Meredith and Dixie M. Meredith. It is located at Grange and Del Mar Roads.

#### Buys Division

MADRAS, ORE. — Paul Jasa recently purchased the aqua ammonia division of the Deschutes Valley Potato Co. of this city.

#### Goes Out of Business

SAN FRANCISCO — The Chappell Implement Co. in Fresno, a retailer of farm and agricultural chemicals, is going out of business. The firm has been located at 2588 S. Railroad Ave.

#### New Supply Store

SAN FRANCISCO — A new garden and farm supplies store opened recently in Livingston, Cal. C. P. Hockett is the owner of the new business located on Vinewood Ave.

#### Nursery Opens

SAN FRANCISCO — The Lamont Nursery, dealer in agricultural chemicals and fertilizers, has opened in Lamont, Cal. The new business is owned by Neva J. Selbach and is located at 517 Main St.

#### Buys Out Partner

HANFORD, CAL. — Thomas F. Heffernan has purchased the interests of his partner, Joseph F. Kenrick, in the Kenrick-Heffernan Co., Hanford, retailer of farm machinery, fertilizer and other agricultural chemicals. The company continues to be known by the same name.

#### New Ammonia Service

TOPPENISH, WASH. — A new Phillips 66 aqua ammonia fertilizer plant has been opened here with Norman Mowry appointed distributor. He will conduct his business under the name of Norm's Aqua Service.

#### Purchases Store

MODESTO, CAL. — The Sonora Supply Co. of Modesto has purchased the H-V Farm Co., retailer of agricultural chemicals and other farm supplies, from Jack O. and Harriet Harris, and is continuing to operate the store.

#### New Nursery

SAN FRANCISCO — The Clovis Avenue Nursery began operations in Fresno recently. The new business is operated by Charles W. and Cora L. Edwards and is located at 6496 N. Clovis Avenue.

#### Firm Incorporated

NORFOLK, VA. — Farmers Fertilizer & Seed Corp., 702 Board of Trade Bldg., Norfolk, has been incorporated.

#### Scott Hanson Named to Association Committee

PORTLAND, ORE. — Scott Hanson, northwest representative of Collier Carbon & Chemical Corp., has been selected by the board of directors of the Pacific Northwest Plant Food Assn. as a member of the Soil Improvement Committee. He will represent industry on the committee.

The committee is composed of six representatives of industry and two members each from Oregon State College, Washington State College and the University of Idaho. There is also a member from the U.S. Department of Agriculture water resources group, with Grant Braun, American Potash Institute, as chairman.



M. S. Wright, Sr.

M. S. Wright, Jr.

### M. Steele Wright, Jr., Named President of Texas Farm Products

NACOGDOCHES, TEXAS — M. Steele Wright, Jr., general manager, has been elected president of Texas Farm Products Co. of Nacogdoches at a meeting of the board of directors here.

He succeeds his father, M. S. Wright, Sr., who resigned as president after serving in that capacity for 22 years. Mr. Wright, Sr., was elected chairman of the board at the meeting and will serve actively in the operation of the company, which manufactures Lone Star Feed and Fertilizer. He will continue to maintain his office at the company's headquarters in Nacogdoches.

M. S. Wright, Sr., founded Texas Farm Products Co. in January, 1930, when the firm started with a fertilizer plant, producing 10,000 tons of fertilizer annually. He had come to Nacogdoches from Baltimore, Md., where he was division manager for Armour Fertilizer Works and was in charge of sales in five states. From the founding of Texas Farm Products Co., M. S. Wright, Sr., served as general manager until 1944 when he was succeeded by Steele Wright, Jr.

Steele Wright, Jr., started with the company at its organization. He worked in nearly every capacity in the establishment of the original fertilizer plant and later in its operation, serving as shipping clerk, billing clerk, night superintendent and then general superintendent from 1930 to 1936. He has been designer and developer of the company's trademark and bag designs.

When the company purchased the Nacogdoches oil mill in 1936, he was placed in full charge of the mill and the development of a refinery and salad oil plant. When decline of the cotton industry in East Texas cut off an adequate supply of cotton seed for the operation of this plant, it was shut down in 1942. Steele Wright, Jr., entered the U.S. Air Force in 1942 and served as a glider pilot until 1944 when he returned to the company to assume management of the grain and feed and fertilizer operations.

In 1952 Texas Farm Products Co. constructed a push button, completely electrically controlled feed mill with an annual production capacity of 150,000 tons. In 1954, under Steele Wright, Jr.'s direction, the company constructed a 10-story-high concrete grain elevator that would store 500,000 bushels, raising its storage capacity to 600,000 bushels.

The original fertilizer plant was incorporated into the feed mill warehousing facilities in 1955 when the company constructed a new 50,000-ton fertilizer plant which now produces 16 different analyses of pelletized fertilizer.

### DuPont Announces New Fertilizer Formulation

WILMINGTON, DEL. — A new formulation of "Uramite" fertilizer compound—"Uramite" M—designed for blending into mixed fertilizers, is now being introduced commercially by the DuPont Polychemicals Dept.

F. M. Jornlin, sales manager, said the new product has a 38% nitrogen content with a gradual nitrogen release rate and that it can be used in either the dry mixing or ammoniation processes.

# MOLYBDENUM

## for Agricultural Use

This element  
in the form of  
water soluble

## Sodium Molybdate

Shipment from Stock  
Prices and Specifications Upon Request

### The S. W. Shattuck Chemical Company

1805 SOUTH BANNOCK • DENVER 23, COLORADO

Manufacturers of Quality Chemicals Since 1918



# Progress Report

## POTASH COMPANY OF AMERICA, LTD.

Our Canadian shaft is almost complete. The most difficult ground is behind us. We expect completion June, 1958. Depth will be over 3,000 feet.

Meanwhile our Carlsbad Plant can serve your entire POTASH requirements with the very best material.

New 60% Standard Muriate  
New 60% Special Granular Muriate  
New 60% Coarse Granular Muriate  
Sulphate of Potash  
Chemical Muriate — 99.9% KCL  
minimum

Quick Service—High Quality  
Phone, write, telex, or wire us  
Phone STerling 3-4990, Washington  
TWX No.—WA-331



## POTASH COMPANY OF AMERICA CARLSBAD, NEW MEXICO.

General Sales Office . . . 1625 Eye Street, N.W., Washington, D.C.  
Midwestern Sales Office . . . First National Bank Bldg., Peoria, Ill.  
Southern Sales Office . . . Candler Building, Atlanta, Ga.



# High Economic Cost Of Weeds Cited at Western Conference

## Control Methods Save \$700 Million in Decade, Expert Says

SPOKANE, WASH.—Weed control methods developed in the last 15 years have resulted in annual net savings of \$130,000,000 for agriculture and industry in the 11 western states.

A University of California assistant plant physiologist, Boysie E. Day, Riverside, Cal., made that report here at the 16th annual Western Weed Control Conference.

Over the last decade, Mr. Day said, the savings to agriculture and industry added up to about \$700,000,000. The various weed control research projects in the 11 states during the period, he said, probably amounted to more than \$7,000,000—"or at most one per cent of the benefits derived from the work."

Weed control measures do not benefit agriculture alone, Mr. Day emphasized.

"There are advantages to industrial weed control that are difficult to evaluate on a strictly monetary basis. For example, what is it worth to a company to have a weed-free parking lot, working area or storage yard?" Mr. Day asked.

In most instances, he continued, a good weed-control program on industrial sites is reflected in direct economic benefits—"reduction in fire hazard through weed control, for example, can result in reduced insurance rates for the company."

Mr. Day said weed control programs are practiced on about 90% of the 40,000 miles of railroad lines in the 11 western states. But, he said, such measures are applied along highways "less uniformly and less rigorously."

Representatives of industry, agriculture, the soil conservation service, fire district officials, farmers and county officials attended the two-day meeting. (Another story of the conference appeared on page 1 of the March 24 issue of Croplife.)

Richard A. Fosse, American Chemical Paint Co., Denver, is new presi-

dent of the weed control group. He replaces Henry Wolfe of Washington State College. William R. Furtick from Oregon State College at Corvallis is the group's new vice president. E. E. Heikes from Montana State College at Bozeman is the new secretary-treasurer.

Weed control methods have made it possible for rural telephone users in Iowa to have dial service, E. P. Sylwester, extension weed specialist at Iowa State College, told the conference.

He said that brush control by spraying has increased telephone service dependability to the point where dial phones could be installed on rural lines. He said 10 years ago this was impossible because of brush under lines interfering with the dial impulse.

Mr. Sylwester said the disheartening thing about weed control extension work is the slowness with which people adopt ideas.

"Dandelion control is simple and effective with 2,4-D, yet less than 10% of the people use it. As a result our parks, cemeteries and airfields are masses of unsightly dandelions," he said.

"The same may be said of ragweed infesting permanent bluegrass pastures where 50¢ worth of 2,4-D per acre in 10 gallons of water per acre would kill every single last ragweed plant in the area for the season.

George Friesen, University of Manitoba, Winnipeg, told of experiments which demonstrated effectiveness of weed control in cutting down on yield losses due to weed infestations in cereal and flax.

Invasion of western range areas by foreign weeds presents a formidable control problem as these plants continue to spread rapidly on low-value lands.

Discussed before a panel of experts by Robert H. Haas, range weed specialist of USDA's Agricultural Research Service, this problem was one of the major topics considered at the conference.

Suggesting that cost often limits rangeland weed control, Mr. Haas stressed the advantages of eradicating harmful alien plants while infestations are small, even though treatment may appear to be expensive.

Among foreign weed invaders are halogeton and goatweed, both poisonous, and Mediterranean sage. Halogeton, native to Russia, is a relative newcomer. Like halogeton, goatweed and Mediterranean sage, from other European areas, reached Western range areas by unknown means.

The generally depleted condition of

rangelands in the intermountain region, Mr. Haas told the panel, is largely responsible for the existing range weed problem. With this situation becoming increasingly worse, new aggressive plants that have few natural enemies in this country spread rapidly.

Mr. Haas cited four methods of control toward eventual solution of the problem. These are: range revegetation with perennial forage plants, use of herbicides, biological control and hand hoeing in extreme cases to eradicate poisonous weeds growing in scattered or remote patches.

Range revegetation, he indicated, has a high potential value as a means of weed control, either as a separate practice or in conjunction with other control practices.

Perennial forage plants compete with invading weeds. Crested wheat grass has been used on low-producing sagebrush lands in Southern Idaho in control work against the poisonous plant halogeton, he pointed out.

While the practice may not have delayed spread of this weed, he said, it has reduced the problem in some infested areas by increasing forage production enough to shift away from salt-desert shrub vegetation. This, in turn, has improved the shrub vegetation and has made these areas less vulnerable to the spread of halogeton.

Vigorous stands of perennial grasses, he said, tend to retard spread of Mediterranean sage.

Use of herbicides as a practical means of range weed control has been demonstrated, Mr. Haas said, but he added that further explanation was needed. He named 2,4-D as a successful killer of problem plants such as halogeton, rabbitbrush, larkspur, lupine, locoweed and water hemlock. He cited the proper timing of herbicidal applications as all important for effective control.

Biological control of range weeds, he indicated, would be the ideal means if it were applicable to all weeds. He related the spectacular success of the use of beetles to combat goatweed or St. John's wort. The beetles feed on this plant, also known as Klamath weed.



Bernard F. Nachtman

**DISTRICT MANAGER**—Bernard F. Nachtman has been named manager of the Chicago district office for Commercial Solvents Corp., it was announced by James V. O'Leary, general sales manager. Mr. Nachtman joined CSC in May, 1947 as an industrial chemicals salesman assigned to Kansas City. In October, 1951 he became manager of the Cleveland district office, a post he held at the time of his new appointment. The Chicago district office serves as the sales center for CSC products in an area covering northern Indiana and Illinois, Wisconsin, Iowa, Minnesota and the Dakotas.

## TURFGRASS RESEARCH GIFT

DAVIS, CAL.—A grant of \$250 toward University of California turfgrass research was recently accepted from the Golf Course Superintendents Association of Northern California. "What makes this gift especially appreciated and worthy of mention," said Warren P. Tufts, chairman of the department of landscape management on the Davis campus, "is that it is a contribution out of the pockets of employees rather than from the organizations for which they work."

# Effects of Nitrogen on Productivity Of Kentucky Bluegrass Pasture

By EDWIN H. JENSEN and ROBERT A. MADSEN\*

On the main Nevada Agricultural Experiment Station farm near Reno, a uniform Kentucky bluegrass pasture of four and eighty-four one-hundredths acres was divided into four pastures of equal size. Two pastures were fertilized and two were not.

Fertilizer, as ammonium sulfate, was applied at the rate of 50 lb. nitrogen in March, plus 55 additional pounds of nitrogen in July. Rotational grazing was used with the animals being on the pasture for two weeks and off for two weeks. Irrigation was also at the two-week interval.

The number of steers that were on the pasture were adjusted according to the forage available. Forage yields

were obtained by the use of cages. The forage beneath the cage was clipped each time the animals were removed from a pasture. The preliminary results of this trial are shown in the accompanying table.

The pastures that received an application of 105 lb. of nitrogen per acre produced 39% more beef than those receiving no nitrogen. In addition, the carrying capacity of the pasture was increased from seven and two-tenths AUM (animal unit months) per acre to 12.2 AUM. However, the animals on the fertilized pasture did not gain as rapidly as those on the unfertilized pasture.

Yields of forage on the fertilized pasture were 71% greater than on the unfertilized. Similar results were obtained in previous experiments conducted at the South Virginia Farm near Reno. Thus it appears that application of nitrogen to bluegrass pastures will result in markedly increased yields of forage and beef.

## 1957 Results—Nitrogen on Bluegrass Pasture

|                                  | —N      | +N           |
|----------------------------------|---------|--------------|
| Fertilizer application           | None    | 105 lb. N/Ac |
| Date pasturing began             | May 9   | May 9        |
| Date pasturing ended             | Oct. 23 | Oct. 23      |
| Number of steers                 | 3 to 5  | 5 to 9       |
| Average weight of steers May 9   | 498     | 466          |
| Average weight of steers Oct. 23 | 807     | 708          |
| Pounds beef gained per acre      | 498     | 693          |
| Gain per head per day            | 1.87    | 1.49         |
| Animal months per acre           | 8.86    | 15.03        |
| AUM per acre                     | 7.2     | 12.2         |
| Pounds forage produced per acre  | 3680    | 6300         |

\* This article is part of the 1957 agronomy progress report issued by the Max C. Fleischmann College of Agriculture, University of Nevada. Mr. Jensen is assistant agronomist, and Mr. Madsen is agronomy research technician at the Nevada Agricultural Experiment Station in Reno.

## FORMULATORS!

ESPESOL 5 now registered for labeling purposes as a XYLENE-BASE solvent!

Eastern States Petroleum & Chemical Corporation

P.O. Box 5008

Houston 12, Texas

WA-1651

## CHOOSE YOUR AGRICULTURAL CHEMICAL APPLICATION EQUIPMENT FROM THE ...

Complete **Broyhill** LINE

the name that means

CUSTOM QUALITY

TRAILER, TRUCK or TRACTOR MOUNTED for

- Aqua Ammonia
- Nitrogen Solutions
- Insecticides
- Weedicides

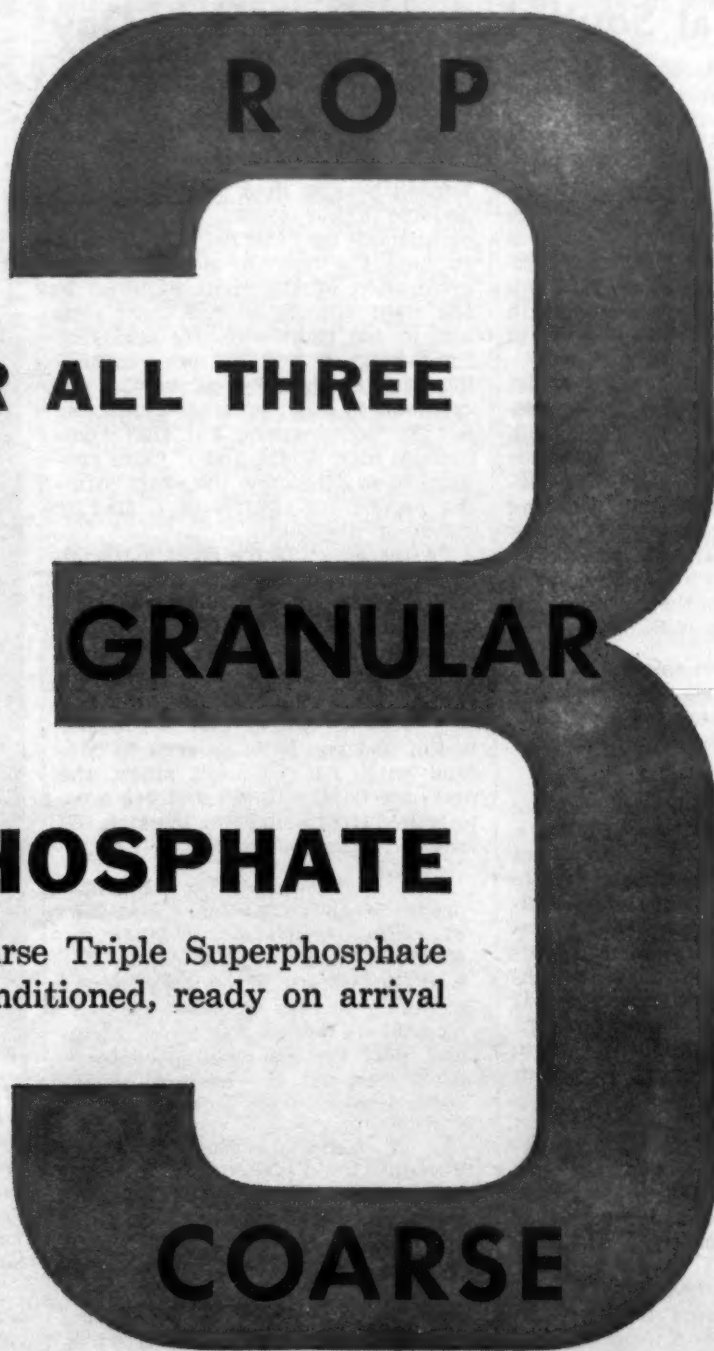
Write today for a complete catalog to

THE BROYHILL COMPANY

DAKOTA CITY, NEBRASKA







## ONE SOURCE FOR ALL THREE

ROP, Granular and Coarse.

## TRIPLE SUPERPHOSPHATE

Quality controlled ROP, Granular and Coarse Triple Superphosphate of highest uniform consistency, properly conditioned, ready on arrival for immediate processing.

## ONE ORDER AND DELIVERY BRINGS ALL THREE

From the country's largest producer of Triple Superphosphate, your requirements, large or small, are always readily available.

**U. S. PHOSPHORIC PRODUCTS**  
**INDIANAPOLIS OFFICE**  
 P. O. Box 55251 • Uptown Station  
 INDIANAPOLIS 5, INDIANA  
 Phone: Walnut 3-5477

There's a **BRADLEY & BAKER** Office near you. Their representative would be pleased to consult with you on your requirements and to advise on your most convenient delivery routings.

### Area Offices:

Atlanta, Georgia      St. Louis, Missouri  
 Phone: Trinity 6-4393      Phone: Parkview 7-8166

Norfolk, Virginia  
 Phone: Madison 2-2708

**U.S. PHOSPHORIC**  
**PRODUCTS**

TAMPA  
 FLORIDA

*Division*

TENNESSEE



CORPORATION

**BRADLEY & BAKER**

Sales Agents

155 East 44th Street — New York 17, N. Y.  
 Phone: Murray Hill 2-5325



## Nematode, Fire Ant Control Measures Outlined at South Florida Pest Field Day

MIAMI—The third annual South Florida pest control field day, held recently at the Dade County Vocational Agricultural Center in Miami, featured speakers from the Dade County Agricultural Dept., the Florida Agricultural Extension Service and representatives of numerous chemical companies. Commercial exhibits were also sponsored by chemical and equipment companies, with actual demonstrations of pest control equipment.

In the lecture hall two films, "Thief in the Soil" and "Rival Worlds," pictured the constant struggle between man and the insect world. The latter film, "Rival Worlds," took the viewers on a world-wide tour, showing conditions which result from a lack of insect controls. This film, made by Shell Chemical Corp., has achieved international recognition, winning awards at the Cannes Film Festival.

The battle against nematodes was discussed by Bogardus Werth, Virginia-Carolina Chemical Corp.; and W. E. Feistner, Shell Chemical Corp.

Mr. Werth told how to recognize symptoms of nematode damage. "Since you can rarely see nematodes with the naked eye," said Mr. Werth, "your best bet for positive identification is your State Experiment Station. Some of the symptoms are spotty, irregular growth and yellowish-green foliage on plants where soil is known to be fertile. Others are root galls or knots easily visible on certain plants when transplanted or examined."

Mr. Werth also explained the best methods and times for using nematocides on potted plants, plant beds, trees, lawns and crops.

Mr. Feistner used a caricature of a nematode to demonstrate how they attack plant roots.

Speaking on methods of application, Mr. Feistner said that 99% of poor results in the use of nematocides were either due to lack of a covering seal or to not going far enough into the soil. He said that the best depth is between six and eight inches, because the fumigant works upward. Mr. Feistner said that in the future, fumigant applications will be combined with fertilizing in order to save time and equipment. He said that their product could be used satisfactorily on all major ornamental plants, fruit trees, and edible crops with the exception of potatoes and onions.

James Brogdon, entomologist, Agricultural Extension Service, University of Florida, spoke on new insecticides

and their use on ornamental plants. Mr. Brogdon also distributed a 25-page mimeographed list of Plant Protection Pointers.

Although emphasizing that the extension service does not specifically endorse brand names, Mr. Brogdon pointed out that this list was intended to help the user to determine the application of the right material in the right amount at the right time and in the right way. He said that the "shotgun" type of spray consisting of a combination of various ingredients is often satisfactory for use by the homeowners, but that commercial men would find it more economical to determine the exact formula needed for control of a specific insect or disease.

"After selecting the right material, care should be taken to use enough but not too much which would be wasteful and might kill the plant," said Mr. Brogdon. "The right time is also important," he added, "because if you catch the pests while they are still young they are easier to kill and you have no eggs to contend with. At the adult stage, the pests are harder to kill and you have to repeat treatment later to catch the second generation."

Mr. Brogdon cautioned Florida people about complacency because of the extreme cold weather in Florida during the past winter. He said that tests on many pests showed that they were not harmed by cold as low as 25° below zero, and that the beneficial predatory pests who eat the harmful pests suffered more from cold.

Dr. S. H. Kerr, another entomologist from the University of Florida, showed color slides illustrating the various types of worms and bugs which attack lawn grasses in Florida. He said that many of these pests have been here for years, but are becoming more noticeable as a result of the introduction of new types of lawn grasses which are susceptible to webworms and billbugs.

Dr. Donald Coe, extension plant pathologist, also spoke on nematodes and nematocides.

At the evening session, Harold Denmark, acting chief entomologist, Florida State Plant Board, spoke on the origin and spread of the imported fire ant. Mr. Denmark said that the light red or intermediate phase of the ant, which was introduced about 1930, is the most rapidly spreading type. He said that the pest has been found in at least ten states, and that immediate measures should be taken to prevent further spread. He said



**PLANT FOOD INSTITUTE AWARDS**—Winners in the achievement contest sponsored by the National Plant Food Institute, have been announced. They were Allan L. Seim, Iowa State College, and Floyd Truesdell, University of Kentucky. In the top photo, Mr. Seim, in the center, holds the plaque which had been presented by Zenas H. Beers, Midwest Regional Director of NPFI, Chicago, at left, and Dr. W. H. Pierre, at right, head of the agronomy department at Iowa State. Mr. Seim, a native of Iowa, enrolled at the college in the fall of 1956 to major in agronomy.

The lower photo shows Mr. Truesdell with his plaque following its presentation by W. Morris Newman, vice president, Price Chemical Co., Louisville, Ky. (right) while Dr. Gilbert Webster, head of the department of agronomy at the University of Kentucky, looks on. Both Mr. Truesdell and Mr. Seim received scholarships for \$200. Selection of the winners was made by a committee composed of major staff members in the departments of agronomy, plus the executive officers of the student section, American Society of Agronomy.

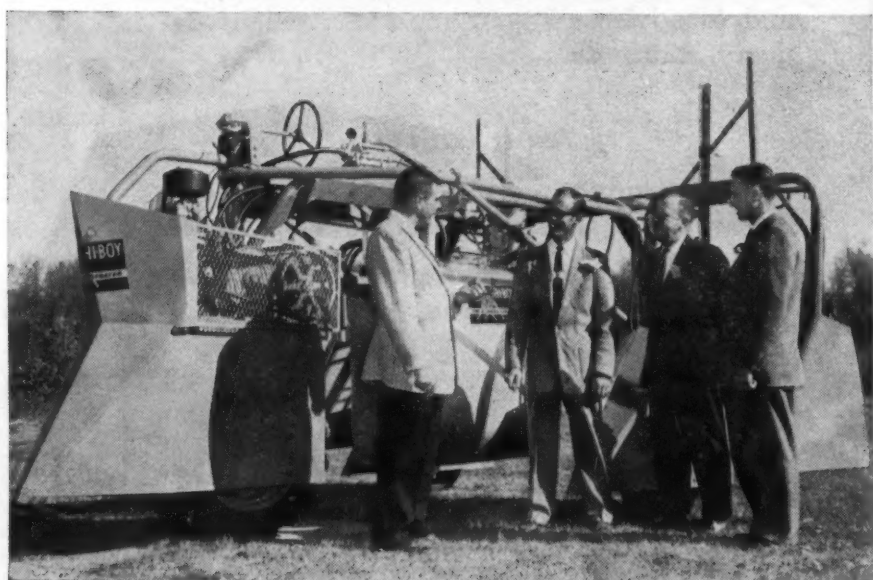
that breeding seldom extends the spread more than three to five miles, but that cars, trucks, trains, planes and soils and nursery stock in shipment transport the fire ant over widely spread areas. "One lone fertilized queen can start and feed a new colony," said Mr. Denmark.

He showed color slides of areas in Northwest Florida where the ant has spread rapidly since 1949. Recent new finds have been made as far south as Miami and in the Tampa area. The state has appropriated funds for the control and eradication of the fire ant.

In addition to damaging crops, the fire ants eat fresh meat and attack young newborn calves, pigs and wildlife. Their sting is very painful, interfering with the harvesting of crops, and the value of land in heavily infested areas is greatly reduced.

Mr. Denmark said that while there have been no new discoveries of the Mediterranean fruit fly, the State Plant Board is still maintaining 40,000 traps to be on the alert in the event this pest appears again.

The Pest-O-Rama production was arranged by Douglas Knapp, assistant Dade County agent, with the assistance of the Florida Agricultural Extension Service and experiment stations personnel. Co-sponsors were the Florida Nurserymen & Growers Assn., the Horticultural Spraymen's Association of Florida, the South Florida Garden Supply Assn. and the Horticultural Study Society.



**SPRAY SCHOOL PARTICIPANTS**—Gil Betullus (left), sales manager for the farm sprayer division of Hahn, Inc., Evansville, Ind., points out some of the advancements in the 1958 model Hahn Hi-Boy sprayer-duster to 3 of some 60 distributors and representatives who attended Hahn's annual sprayer school held recently in Evansville. Others shown are (left to right) Robert Reimer of Bakersfield, Cal.; James Gibson of Laurinburg, N. C., and Willey McClellan of London, Ontario. Distributors who cover 35 states as well as parts of Canada, Puerto Rico and Mexico were represented at the three-day meeting.

## 110 Firms to Exhibit At Chemical Exposition

**SAN FRANCISCO**—More than 110 of America's leading manufacturers of chemicals, chemical equipment and scientific instruments have announced their intention of exhibiting their products and services at the Pacific Chemical Exposition April 13-17, 1958 in San Francisco. The Exposition, sponsored by the California Section of the American Chemical Society, will be held concurrently with the 133rd national meeting of the society.

The exposition will be held in San Francisco's new underground Civic Center Exhibit Hall and will be one of the first shows to be given in the hall. Construction of the hall is expected to be completed just prior to the opening of the exposition.

The varied interests of the companies slated to take part in the exposition indicate that a wide variety of equipment and material will be shown. Of particular interest will be the exhibits scheduled by several of the larger West Coast computer manufacturers who plan to demonstrate the application of "electronic brains" to manufacturing operations. Manufacturers of chemicals plan to introduce new materials useful in chemical synthesis and for application to processes in other industries. Chemical plant constructors and material handling and process equipment manufacturers will be widely represented. Also, makers of scientific instruments for production plants and laboratories will demonstrate their latest models.





Wm. M. Stilwell

**CLIMAX APPOINTEE**—William M. Stilwell has been made manager, agriculture sales and development, Reuel E. Warriner, vice president—sales, of Climax Molybdenum Co., a division of American Metal Climax, Inc., announced. Since joining Climax in 1955, Mr. Stilwell has been concerned with chemical market development, including work on the firm's agricultural program. He was graduated from Yale in 1951 with a B.A. degree.

### Monsanto Chemical Directors Reelected

ST. LOUIS—All members of Monsanto Chemical Co.'s board of directors were reelected at the company's 56th annual meeting of shareholders.

Those reelected were Edgar M. Queeny, chairman, Charles Allen Thomas, Francis J. Curtis, John L. Gillis, Carroll A. Hochwalt, William W. Schneider and Felix N. Williams, all of St. Louis; Thomas H. Barton and Trueman M. Martin of El Dorado, Ark.; Charles S. Cheston of Philadelphia; Frederick M. Eaton of New York; and Ernest O. Lawrence of Berkeley, Cal.

The directors elected Mr. Gillis and Mr. Martin to the company's executive committee. Mr. Gillis has been a vice president of Monsanto since 1950 and a member of the board of directors since 1955. When Lion Oil Co. merged with Monsanto in 1955, Mr. Martin became a member of Monsanto's board, a vice president of the company and remained as president of the Lion Oil Division.

### ESA BRANCH ELECTION

ST. LOUIS, MO.—Dr. J. W. Apple, University of Wisconsin entomologist, was named president-elect of the North Central Branch of the Entomological Society of America at the group's annual meeting here March 26-28. Dr. Apple will not take office until 1959, in accordance with the ESA practice of naming a president a year before his term begins. Dr. Roscoe Hill, University of Nebraska, took over the office of president for 1958 to succeed Donald A. Wilbur, Manhattan, Kansas, whose term expired at the meeting.

Other officers named included Dr. P. C. Stone, University of Missouri, as executive committeeman at large, to succeed Howard O. Deay, Purdue University.

Dr. C. W. Wingo, University of Missouri, will remain as secretary-treasurer, J. Everett Bussart, Velsicol Chemical Corp., Chicago, continues as North Central Branch representative to the ESA governing board; and Dr. Roy Rings remains on the branch executive committee.

### Oat Chlorosis Found in South Carolina Field

CLEMSON, S.C.—The appearance of oat chlorosis (yellows) in South Carolina oat fields this year is similar to that seen in many Piedmont counties last spring, according to information from the S. C. State Agricultural Experiment Station here. Some fields recently surveyed in Newberry County appear to have more and larger chlorotic areas than were observed in these same fields last spring, the report says.

Surveys as early as December revealed some chlorotic oat plants in several Piedmont Counties. The extreme cold weather masked the symptoms soon after they appeared, though chlorotic oat plants are readily visible now that oats are growing out of the cold damage.

Small grain pathologists over many of the southern states have two theories on the cause of oat chlorosis. One theory is that an aphid transmitted virus is causing the trouble. Some research workers have been able to

induce oats to turn yellow by allowing certain aphides to feed on chlorotic oat plants and later transfer them to healthy plants. Some species of these aphides have been reported in South Carolina.

Another theory being advanced by Clemson's small grain pathologist and co-workers is that certain fungi which are similar to the one responsible for oat blight diseases can be collected from fields affected with oat chlorosis and that these fungi are capable of causing oats grown in the greenhouse to become chlorotic similar to those observed in the field.

### LABORATORY URGED

SACRAMENTO — The California State Board of Agriculture has by resolution recommended establishment of a research laboratory to spearhead a large scale program of biological control of insect and plant pests in the U.S. The board requested Ezra Taft Benson, secretary of agriculture, to include funds for the project in his budget.

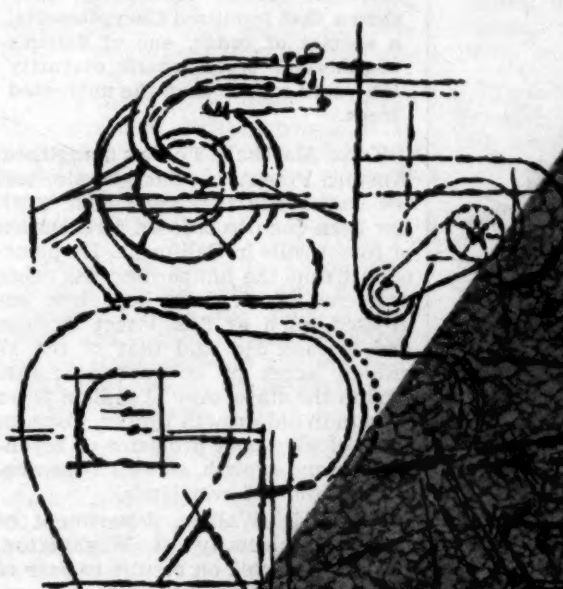
### Fertilizer Meeting Set For May in Virginia

BLACKSBURG, VA.—A series of spring fertilizer meetings has been scheduled by the Virginia Polytechnic Institute Agricultural Extension Service. According to W. W. Lewis, VPI extension agronomist, fertilizer management personnel, salesmen and dealers are invited. The schedule:

May 15, Virginia Agricultural Experiment Station, Blacksburg, featuring pasture and forage crops; May 21, Piedmont Research Station, Orange, featuring small grains, pasture and fertility; May 22, Eastern Virginia Research Station, Warsaw, featuring small grains, pasture, forage crops and turf; May 23, Southside Research Station, Charlotte, featuring small grains, forage, pasture and turf.

### PEST CONTROL GUIDE

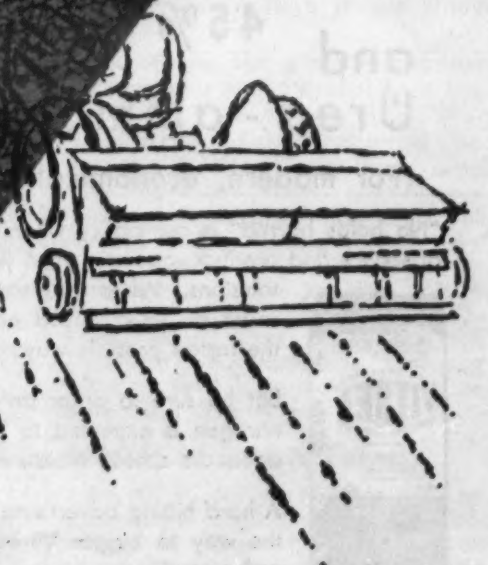
BERKELEY — The University of California has issued leaflet No. 83, which gives its 1958 pest control guide for cotton.



## LET NATIONAL POTASH SERVE YOU

Here is a DUAL PURPOSE, coarse grade muriate of potash. Designed primarily for use in granulation. It gives a higher yield of on-size product. It is also ideal for direct application and for the manufacture of top dresser goods.

National Potash standard grade muriate is designed to fit the needs of conventional fertilizers. Processed for a dust-free, non-caking muriate.



**NATIONAL  
POTASH COMPANY**

205 EAST 42nd ST. • NEW YORK 17, N. Y. • ORegon 9-4950  
212 Bell Building • MONTGOMERY, ALA. • AMherst 5-8234



## FORESTS

(Continued from page 1)

Representatives of the timber interests, the fertilizer industry and the university now are giving the proposal consideration.

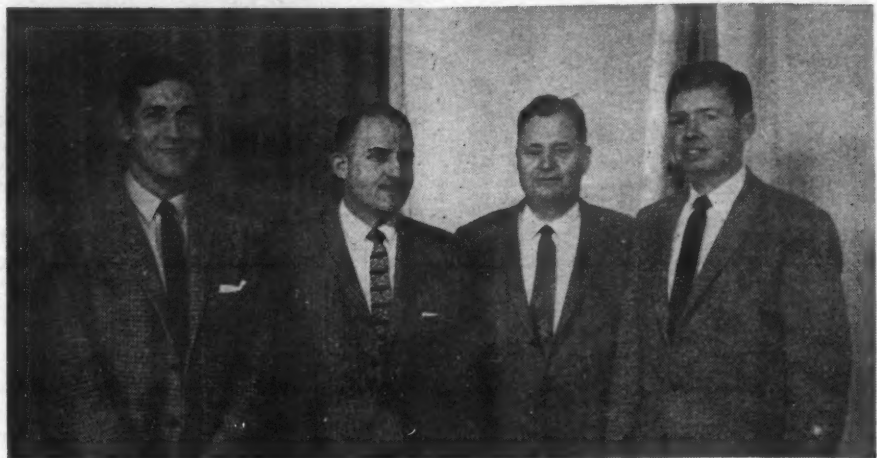
Dr. Stone told the conference that about 42 million acres, or two fifths of the area of California, can be classified as forest land. Of this, 17 million, or nearly one half, is classified as commercial forest land. One third of this commercial forest land is understocked and will require intensive management if its full growth potential of one billion board feet annually is to be realized.

Dr. Stone pointed out that the soil fertility level will affect both the initial survival and any relative advantage the tree seedling may or may not have over surrounding brush. "However," he said, "the key question is 'will a dollar's worth of fertilizer

used today pay its way if it has to be carried on the books at 3 or 4% interest for 50 or 75 years?' " He said it is hard to evaluate the results obtained elsewhere relative to conditions existing in California.

Dr. Russell Coleman, executive vice president of the National Plant Food Institute, Washington, D.C., acted as conference chairman. The conference was called in order to acquaint Californians interested in timber and watershed management with the benefits which can accrue from the use of commercial fertilizers, in the increased production of natural seed cones and in speeding the growth of forest trees to saw timber size, as determined by qualified technicians in fertilizer research.

It was pointed out in the program that in Japan, experiments conduct-



**AT CALIFORNIA MEETING**—A conference to study the fertilization of California forest soils was held recently at Sonoma, Cal. under the sponsorship of the National Plant Food Institute and the soil improvement committee of the California Fertilizer Assn. Prominent in the program planning and execution were the four individuals above. Left to right, they are Dr. Richard B. Bahme, National Plant Food Institute, San Francisco; Dr. Russell Coleman, executive vice president, NPFI, Washington, D.C.; Sidney H. Bierly, general manager, California Fertilizer Assn., San Marino, Cal.; and Malcolm F. Rice, CFA agronomist, San Marino.

ed over a long period of time under the direction of Dr. Takeo Shibamoto of Tokyo University have shown that fertilized *Chryptomeria*, a species of cedar, one of Japan's commercial trees, reach maturity ten years earlier than the untreated trees.

Knox Marshall, forest engineer, Western Pine Assn., Sacramento, told the conference that very little work has been done to date on fertilization of forest soils in California. He pointed out that the lumberman has other problems which have kept him engrossed, such as fire, insect damage and disease. He said that of the 17 million acres of commercial forest land in the state, over 11 million acres remain in old-growth timber. Concern is developing over problems of regeneration and growth, as well as protection, on the cut-over lands.

Dr. R. B. Walker, department of botany, University of Washington, Seattle, reported on results to date of extensive forest soils fertilization research in Washington state, under the direction of Dr. Stanley P. Gessell, department of forestry, University of Washington, in which he had collaborated. Dr. Walker said that fertilization of forest trees will assume more importance as virgin timber becomes scarcer, and as timber operators depend more on second growth for saw timber.

Dr. Walker said that the nutrient removal from the soil by many commercial lumber trees approaches that of agricultural crops. In greenhouse studies, it has been shown that nitrogen, applied at the rate of 50 lb. per acre, produced a 50% increase in terminal leader growth of Douglas fir and Western red cedar.

He reported good growth increases of trees to which nitrogen, nitrogen-phosphate and complete nitrogen-phosphate-potash had been applied. He said that fertilizer tends to increase the mortality rate of suppressed trees in overstocked young stands, through increased competition, thus accelerating the natural thinning process.

Dr. Walker commented that larger and steadier production of seed occurs when Douglas fir is fertilized, using about 200 lb. of nitrogen and 100 lb. of phosphate per acre around seed trees, and that under these conditions, total seed production may be increased four to seven-fold, and lateral short elongation increased 25 to 60%.

Dr. E. T. York, Northeast manager, American Potash Institute, Washington, D.C., told of his observations of forest soil fertilization research during a recent visit to West Germany, and showed some color slides to illustrate the value of fertilization. He reported a U.S. Forest Service estimate that if industrial wood maintains its present relative place in the U.S. economy, the demand could be

as much as 40% greater in 1975 than it was in 1952, and that this demand could be more than double present needs by the year 2000.

The most commonly observed nutrient deficiency symptoms are those of nitrogen, phosphorus, potassium and magnesium, which show up on trees in much the same manner as they do on agricultural crops. Dr. York said that numerous experiments in Europe have indicated responses to commercial fertilizers on relatively infertile soils. He reported little work has been done to date to determine how frequently fertilizer should be applied to forest areas. Nitrogen deficiency symptoms are common in Sweden within two to three years after application. In Great Britain, phosphorus gives good response ten years or more after application, and potash carryover benefits are apparent for a somewhat shorter period.

Dr. York suggested that foliar analysis may offer the best means of diagnosing fertilizer needs of established trees. This procedure will necessitate development of carefully standardized sampling techniques.

Dr. L. C. Walker, of the school of forestry, University of Georgia, Athens, Ga., brought the conference up to date on work under way in his state, and exhibited a number of slides. He said that soil fertility experiments there "are tragically behind schedule." He expects that prices for pulpwood will continue to rise, and that by 1967, the economics of fertilizing southern pines may be well established. Meanwhile, research is underway and it is hoped that many questions will soon be answered.

Each year for the last eighteen years, an average of 150,000 acres of agricultural land has been abandoned in Georgia, which has gone into pine forest. This brings into focus the importance of forest soil fertilization in these areas, he said.

In South Georgia, the U.S. Forest Service is conducting an experiment on a deep soil, but poorly drained because of a high water table. "Treatment was highly significant a year after fertilization for slash pine height growth," said Dr. Walker. "Trees in unfertilized plots averaged 22.5 inches. Fertilized trees exceeded 30 inches for high NPK application."

Dr. Paul J. Zinke, assistant professor of forestry, University of California, and Gilbert H. Schubert, research forester, California Forest and Range Experiment Station, both of Berkeley, reported on their work. Dr. Zinke showed a number of slides in connection with his work, which indicated significant response to fertilization of ponderosa pine seedlings growing in a sub-soil borrow-pit about 100 miles south of Sonoma.

Mr. Schubert said that "fertilizing seed trees may be one way to improve reforestation of cut-over and fire-destroyed timber stands in California."

# on the right track



for high quality  
nitrogen

**JOHN DEERE VITREA**  
**45% NITROGEN**

and  
**Urea-ammonia solutions**

(For modern, economical use in mixed fertilizers)

"No holds barred" is our policy when it comes to giving you the kind of service and product you want when you order Vitrea or urea-ammonia solutions. When you say "immediate delivery" you can count on your valued order getting to its destination in the fastest possible way.



But be sure to order an ample supply. The demand for nitrogen is expected to be heavy all this season due to adequate subsoil moisture throughout most of the country.

A hard hitting advertising program is also helping to pave the way to bigger Vitrea sales for you. Be ready . . . order now!



Grand River Chemical Division of  
**DEERE & COMPANY**

PRYOR, OKLAHOMA



## California Dealer Studies Needs of Customers, Fills Them, Adds Profits

By Jess Blair  
Croplife Special Writer

A store owner couldn't find a much lower location than the Fred Koehler & Sons Farm and Pet Store at Indio, Cal. The altitude at Indio is 30 feet below sea level. It's a part of the hot, barren valley in which the Salton Sea is located.

Despite being in a desert lowland where high temperatures prevail, Indio is a prosperous little city and is known as the date capital of America.

The two sons, Roy and George Koehler, who now own the business, have a prosperous farm store which caters to the many kinds of farmers found in the valley. Their place is a congregation point for orchard owners, corn farmers, and growers of melons, beans, squash, cantaloupes and other vegetables. Their needs are different, yet whatever they want in the agricultural line can be found at Koehler's.

"We changed over to a general farm supply store a few years ago," said Roy Koehler. "We felt we had to go after a wide variety of farmer customers."

Travelers passing through the barren desert are amazed at the miles of date trees that spring up magically from the hot sands. They don't often see the other crops which support a large part of the population.

"Even though we don't get much of the date trade, we get about everyone else," Roy said. "We cater to the vegetable growers, the chicken farmers and dairies, besides selling lawn and garden supplies to the people in town. In this business, it doesn't pay to overlook anybody."

Fortunately the sales are not seasonal, as in northern areas. Summer stays the year around, and a farmer can pick green vegetables for his Christmas dinner. Corn is planted in August and again in December; beans can be planted as soon as the previous crop is harvested, regardless of the season.

With such warm temperatures and plenty of irrigation water, the insects thrive throughout the year. The store has a steady sale of fertilizer, insecticides and planting seed. The brothers sell large quantities of 16-20-0 and nitrogen fertilizers. In was partly through their efforts that DDT has almost eradicated the destructive grape beetle. In addition to these chemicals, they also handle sprayers, dusters and other equipment for handling farm chemicals.

Since there are so many crops and the danger of drifting poison is always present, very few farmers hire aerial pest control services. They do much of their dusting, which has been a help to the Koehler brothers.

**The two brothers don't stop with farm chemicals, but also handle poultry supplies and baby chicks, dairy and beef cattle supplies, feeds of all kinds, canaries and pet supplies, and dozens of items that a farmer may need.**

"Changing to a general farm supply store was the best move we ever made," said Roy. "We not only held all our customers in farm chemicals, but we gained business from all types of livestock and crop producers."

"During the last two years we have extended our trade territory quite a distance to the west."

Roy was speaking in particular of Palm Springs, the movie resort town about 25 miles back toward Los Angeles. He held up a check for \$7.12 which Harpo Marx had given him for some fertilizer only an hour before. Mr. Marx spends part of his time at his winter home in Palm Springs, when not appearing before TV audiences, and has a young orchard started.

Many of the movie people are beautifying their homes at Palm Springs and are beginning to find their way over to the Koehler's well-stocked store at Indio.

In commenting on the methods used to increase sales, Mr. Koehler said: "There seems to be two trends in this business. You either find a specialized market and then go all the way in servicing it, such as putting dusters and fertilizer spreaders in the field. The other trend is to copy the large department stores, but confine it to farm and outdoor supplies, as we have done here."

"To succeed with this type of place, it means setting up a departmentalized system, making it so colorful and attractive that people will come in to browse around. While they are looking for the item they want, they'll see so many other related products that the owner can cash in on impulse sales."

One difference in managing a place of this kind as compared to a large department store is in the help given customers. Half the people who come into Koehler's want information and advice. If the farmer's squash is infested with bugs, he wants to know what kind of insecticides to use, how to use it and what to expect.

If a woman buys some lawn grass

seed, she wants to know the best kind, what type of fertilizer to use, how much, and maybe needs a hand seeder to plant it with.

"That's where an owner must know his business," said Mr. Koehler. "Fortunately we've been here a long time and have tried to learn everything possible about crops, fertilizers, insects and the problems that confront the farmer."

**"If our recommendations succeed, the customer will come back and he'll tell others. Let us make a mistake, though, and we won't hear the last of it for months."**

Another point brought out by Mr. Koehler is the amount of field trips needed. The two brothers make frequent trips to the farms and orchards nearby to help the owners and to learn what is needed. They try to keep up with the latest information by keeping in close contact with entomologists, marketing experts and the various field men who visit the area for the large companies.

"No business man can rest on his past success," said Roy Koehler. "Competition is always keen, and if we don't keep striving for more sales and at the same time trying to manage our place more efficiently, we will be left behind. Our family tradition of having been here a long time means little to the farmer. He trades where he can get the best deal, so we'll keep on trying to give it to him."

### SHOP TALK



## OVER THE COUNTER

By Emmet J. Hoffman  
Croplife Marketing Editor

Retailers who are in the business of selling to farmers are naturally disposed to be sympathetic to this class of people. To a large degree the farmers' prosperity dictates the prosperity of those who sell to them.

Farmers' prosperity, changes which may affect farming in the future—integration for one—and their position as customers were discussed in Minneapolis recently when Secretary of Agriculture Ezra Taft Benson was a guest at the annual Farm Forum.

One point clearly emerged from the forum: Agriculture will undergo even broader changes in the coming years than it has since World War II.

Mr. Benson explained his views on getting the government out of agriculture to make way for greater freedom and efficiency on the farm.

In addition to weathering the usual barrage of political questions put to him by newsmen about his own future, Mr. Benson was able to inject some of his views on farming trends.

### Can't Freeze Progress

"The farm program is playing a major part in national affairs, and I am more convinced than ever before that the present program is right. More and more farmers are agreeing that the government should get out of agriculture," Mr. Benson said.

"Agriculture is undergoing a technical revolution. It is a dynamic industry, with new developments all the time, and it is impossible to freeze the progress being made in the direction of greater freedom on the farm, and greater efficiency."

### Comments on Integration

The Secretary's reply to a query as to the future possibilities of the various new methods of "contract" or

"integrated" farming was brief but concise. "We're giving it our very close scrutiny. Time will tell, but at present it looks like one way to help farmers reduce their risks." He acknowledged that the Production Credit Administration is financing buildings used in some contract swine production operations.

### Effects of Larger Farms

Dr. O. B. Jesness, former head of agricultural economics at the University of Minnesota and now an economic consultant in industry, also touched on the possible effects of larger farms on future farming practices.

Migration of farm people from farms, as they are consolidated, is a gradual shift, rather than a sudden one, he pointed out.

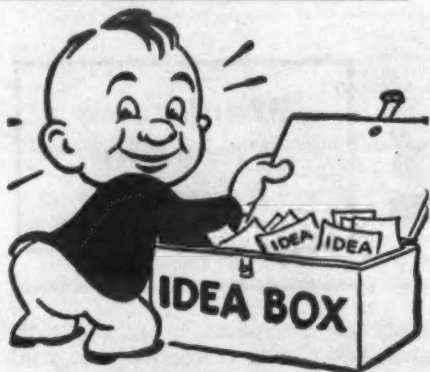
**"It is important to realize that**

(Continued on page 11)



**KEEP CUSTOMERS COMING**—The two Koehler brothers, George (left) and Roy, own and manage the Fred Koehler & Sons Farm & Pet Store, Indio, Cal. In an area dominated by large date orchards, the two brothers have built a profitable trade by catering to vegetable and poultry farmers. They also have a good list of city customers who buy pet supplies, and lawn and garden items.





## What's New...

In Products, Services, Literature

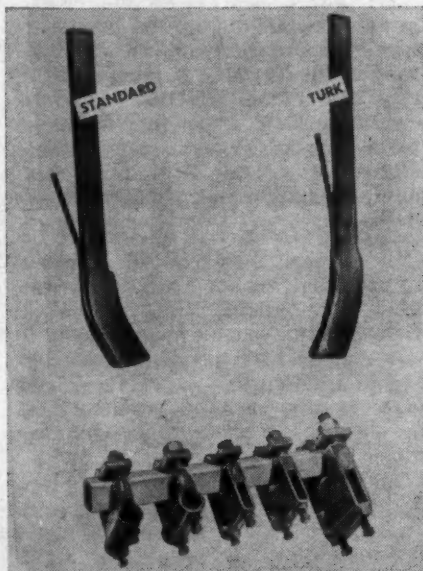
You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

### No. 6711—Insecticide Solvent Booklet

A booklet on the various characteristics and properties of insecticide solvents is now available from the Eastern States Petroleum & Chemical Corp. Information in the booklet is designed to provide insecticide formulators with facts to simplify their solvent buying and formulating. To receive the booklet, check No. 6711 on the coupon and return it to Croplife.

### No. 6716—Fertilizer Shanks, Clamps

New designs of liquid fertilizer shanks and clamps (clamps are unconditionally guaranteed under normal use) are now in production by Tiura Manufacturing & Sales Co. Two designs of liquid fertilizer shanks are being made, each the result of several years' field testing, according to company officials. The Tiura standard shank gives maximum ground breakage. The Turk shank is for minimum soil disturbance. Both shanks feature special hardfacing for long blade life and fast soil penetration, it is claimed. The clamps, in several models, prevent any touching of tool bar and shank, thus protecting both. A clamp can be mounted, dismounted, or shifted on tool bar without having to loosen the shank. A shank



can be installed, removed, raised or lowered without having to loosen the clamp from the tool bar. Details will be supplied if you check No. 6716 on the coupon and mail it to Croplife. Please print or type name and address.

### No. 6720—Fly Control Spray

The Dow Chemical Co. has plans to market a new fly control chemical this spring. The material, called by

the trade name "Korlan" is said to combine good residual properties with very low toxicity to warm-blooded animals. It is recommended for use in dairy barns, poultry houses, other animal shelters, general farm buildings and in refuse areas where flies breed. Effectiveness is said to be from four to six weeks. Check No. 6720 on the coupon and mail it to Croplife to secure details. Please print name and address.

### No. 6721—Calcium Nitrate Fertilizer

Two new four-page pamphlets describing the use of calcium nitrate fertilizer in growing sugar beets and fruit trees, respectively, have been published by Wilson & Geo. Meyer & Co., representative (U.S. West Coast and Hawaii) for Norsk Hydro, manufacturer of Viking Ship Calcium Nitrate from Norway. "Nitrogen Control and Sugar Beets" and "Nitrogen and Fruit Trees" are the titles of the two booklets. Check No. 6721 on the coupon and mail it to Croplife to obtain the booklets. Please print name and address.

### No. 6709—Miticide

Pennsalt of Washington Division, Pennsalt Chemicals Corp., has prepared a technical bulletin (No. W-12) describing Penco Fenson W-50, an acaricide formulated as a wettable powder containing 50% p-chlorophenyl benzenesulfonate. The product is said to be a long-lasting miticide that is recommended for the control of European red mite and clover mite (brown almond mite) on apples and pears in pre-bloom sprays. Check No. 6709 on the coupon and mail it to secure the bulletin. Please print or type name and address.

### Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

### No. 5970—Methoxychlor Specimen Label

A specimen label for "Marlate 50," the 50% technical methoxychlor insecticide wettable powder manufactured by E. I. du Pont de Nemours & Co. is available. Methoxychlor can be used for direct application to dairy cattle as a dust and as a spray in dairy buildings, the Food & Drug Administration ruled recently. Methoxychlor is no longer recommended for direct application to dairy animals by spray or dip. The specimen label has been brought up-to-date in accordance with recent rulings by FDA. Secure the label by checking No. 5970 on the coupon and mailing it to this publication.

### No. 6706—Wax Lined Cans

Metal cans with a sanitary, odorless and tasteless wax lining that resists corrosion have been developed by George D. Ellis & Sons, Inc. The coating of 100% hydrocarbon, microcrystalline, petroleum or other types of waxes hot-sprayed into the finished can by an exclusive Ellisco process may be applied to any size or shape can which has an opening of 3/4 in. or larger. Secure details by checking No. 6706 on the coupon and mailing it to Croplife. Please print name and address.

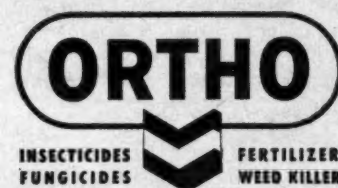
### No. 6707—Plastic Solenoid Valves

The "SV-5100" series of all-plastic, corrosion-resistant solenoid valves has been announced by the Valcor Engineering Corp. The valves are recommended for handling non-oxidizing and oxidizing chlorides, sulphuric acid salts, phosphoric acids, sodium phosphates and hydrochloric acids. Secure detailed information by checking No. 6707 on the coupon and mailing it to Croplife. Please print name and address.

### No. 6704—Metal Signs

The California Spray-Chemical Corp. has available 3 by 5-ft. "Ortho" dealer identification signs which are

**JOHN D. DOE**



© CALIFORNIA SPRAY-CHEMICAL CORPORATION

constructed of 28-gauge metal, embossed at the edges for rigidity and have a baked enamel finish. The sign has a dealer imprint area which allows for one or two lines to carry the dealer's name. Check No. 6704 on the coupon and mail it to Croplife to obtain details. Please print or type name and address.

### No. 5989—V-Belt Booklet

A 16-page booklet entitled, "V-Belts, the Testing, Inspection and Control of Their Quality," has been issued by the Goodyear Tire & Rubber Co. The booklet describes in words and with pictures how raw materials and finished belts are tested and inspected. One section of the book explains quality control procedures, another is concerned with experimental production. Check No. 5989 on the coupon and mail it to secure the booklet.

### No. 6697—Methoxychlor Dust

Geigy Agricultural Chemicals is recommending its Methoxychlor "50" for direct application as a dust or dry powder to dairy cattle for control of horn flies. Available data from such applications has shown zero residues, it is claimed. This conforms with the recent action by the Food & Drug Administration in setting a zero tolerance for methoxychlor in milk, resulting in withdrawal of recommendations for the use of oil or water base sprays on dairy cattle. One-pound canisters of Geigy Methoxychlor "50" are being made available, as well as the standard 4-lb. bag size. Check No. 6697 on the coupon and mail it to secure details.

### No. 5976—Bag Closer

Production line bag closing for small bags is now claimed possible with the new Minneapolis Model JC-2 Sewing Machine recently introduced by the Minneapolis Sewing Machine Co. The JC-2 model is a pow-

### Send me information on the items marked:

- |                                                  |                                                        |
|--------------------------------------------------|--------------------------------------------------------|
| <input type="checkbox"/> No. 5942—Silage Product | <input type="checkbox"/> No. 6705—Label                |
| <input type="checkbox"/> No. 5970—Label          | <input type="checkbox"/> No. 6706—Wax Liner            |
| <input type="checkbox"/> No. 5971—Bag Closure    | <input type="checkbox"/> No. 6707—Valves               |
| <input type="checkbox"/> No. 5976—Bag Closer     | <input type="checkbox"/> No. 6708—Dusting Product      |
| <input type="checkbox"/> No. 5989—V-Belt Booklet | <input type="checkbox"/> No. 6709—Miticide             |
| <input type="checkbox"/> No. 6697—Methoxychlor   | <input type="checkbox"/> No. 6711—Insecticide Solvents |
| <input type="checkbox"/> No. 6702—Lawn Product   | <input type="checkbox"/> No. 6716—Shanks, Clamps       |
| <input type="checkbox"/> No. 6703—Valves         | <input type="checkbox"/> No. 6720—Fly Control          |
| <input type="checkbox"/> No. 6704—Metal Signs    | <input type="checkbox"/> No. 6721—Fertilizer           |

(PLEASE PRINT OR TYPE)

NAME .....

COMPANY .....

ADDRESS .....

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS  
PERMIT No. 2  
(Sec. 34.9,  
P. L. & R.)  
MINNEAPOLIS,  
MINN.

**BUSINESS REPLY ENVELOPE**

No postage stamp necessary if mailed in the United States

**POSTAGE WILL BE PAID BY—**

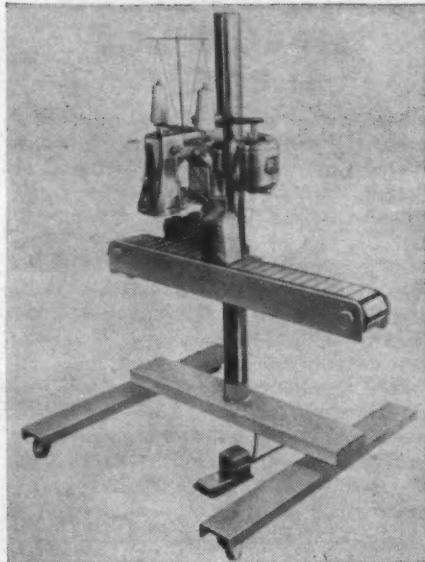
Croplife

P. O. Box 67

Reader Service Dept.

Minneapolis 1, Minn.





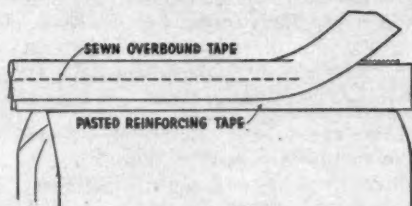
er-operated, all metal conveyor unit synchronized with the sewing head for closing bags of all sizes up to 25 lb. The conveyor raises or lowers for operation in either a standing or sitting position or to line up with the filling machine. The sewing head adjusts vertically to fit the size of bag. Secure details by checking No. 5976 on the coupon and mailing it to Croplife.

### No. 6705—Inoculant Label

A new foil label for "Kalo" legume inoculants produced by the Kalo Inoculant Co. is being used. The label features a leaf design in metallic colors of green, gold and white on an orange background. The foil is said to safeguard the activity of the nitrogen-fixing bacteria in the treatment by sealing in moisture and keeping a relatively constant atmosphere. Check No. 6705 on the coupon and mail it to Croplife to secure details. Please print name and address.

### No. 5971—Bag Closure Method

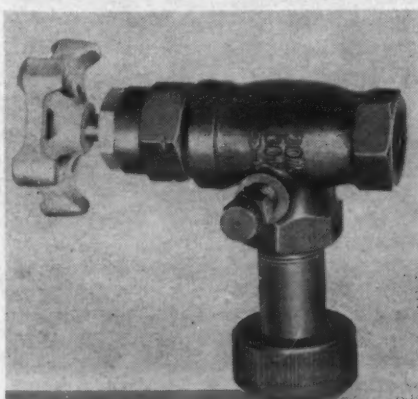
A method of bag closure, called "Sew-Strong," has been announced by Union Bag-Camp Paper Corp.



Used with open-mouth multiwall bags, the method employs reinforcing tapes which are fastened to both ends of the bag at the sewing line. This reinforcement serves to strengthen the bag ends where most bag breakage occurs, it is claimed. The "Sew-Strong" closure can be effected with any sewing head having a bound-over tape attachment. Secure details by checking No. 5971 on the coupon and mailing it.

### No. 6703—Hose End Valves

Two types of hose end valves are now available for attachment to 3/4 in. and 1 in. vapor and liquid hose ends, announces the Bastian-Blessing Co. The valves combine a "RegO" angle valve, vent valve and hose coupling in one convenient, ready-to-use unit and are ideal for fast, safe fill-



ing of trailer and applicator tanks, company officials claim. The hose end valves are also available with the "RegO" safety hose coupling instead of the conventional hose coupling. Check No. 6703 on the coupon and mail it to Croplife to receive details. Please print or type name and address.

### No. 6702—Lawn Product

A product called by the trade name, "Dyna-Green," has been introduced by the Leeds Chemical Products Co. The product involves a chemical color process that is claimed to turn a lawn green as it is watered and builds a healthier, greener lawn within days. The product is claimed to be waterproof and resistant to washing out. Check No. 6702 on the coupon and mail it to Croplife. Please print name and address.

### No. 5942—Silage Product Folder

A folder about "Spring Pasture," a product said to make silage "more appetizing and nutritious" and which "deodorizes grass silage" has been prepared by the Kalo Co. The product supplies an antioxidant to inhibit oxidation. Suggestions for use with grass, corn, sorghum and other si-



lage, with poor quality roughage or in feeds are included in the folder. Secure the folder by checking No. 5942 on the coupon and mailing it to this publication. Please print or type name and address.

### No. 6708—Dusting Product Bulletin

"Ser-a-Sil," a product designed for use in a variety of industrial dusting applications, such as insecticide dusting, is described in a bulletin issued by the Summit Mining Corp. Check No. 6708 and mail it to Croplife to secure the bulletin. Please print or type name and address.

### OVER THE COUNTER

(Continued from page 9)

those who stay will become better customers for many lines because of their enlarged operations and improved income.

"The changes in farm size and numbers are among the indicators that our farming industry is dynamic, not static," said the Minnesota economist. "The speed and number of changes are likely to increase rather than to become less significant. Capital will continue to replace labor on the farm."

Dr. Jesness noted that vertical integration and contract farming are very much in the public eye today and there is speculation over what changes they may bring to family farming as it is known today.

No real reason is found at this time for expecting that either integration or contract farming will alter materially the place or status of the family farm, Dr. Jesness said.

### OBSERVES 25th YEAR

SACRAMENTO—Bertram P. Johnson, plant quarantine inspector at the Redwood inspection station of the California department of agriculture, has completed 25 years of service in the department.

## "I'm Satisfied..."

Stated Mr. Ray Baker of Chemical Fertilizer Company, Inc., Modesto, California, when asked his opinion on the value of TIURA CLAMPS and SHANKS to his applicator business.



Our TIURA CLAMPS just don't break or spring... and with them our operators can install, remove or adjust shanks in about half the time it used to take. TIURA SHANKS make money for us too! Excellent application—more acres fertilized per shank—better work and more work in less time. This is our second season with TIURA CLAMPS and SHANKS — and we're completely satisfied!

TIURA CLAMPS are preferred by progressive liquid fertilizer applicators throughout the west and across the nation. Only TIURA can offer CLAMPS with:

- Greater Strength.
- Size and Style for ANY Type of Shank.
- Ironclad Guarantee against Breakage.
- Lowest Cost—Anywhere!



### FOR VERSATILITY

Get STANDARD and TURK SHANKS when ordering your TIURA made CLAMPS and be sure of unit quality!

### A-10 REPLACEABLE POINT

For quick change in the field—performance without friction—no hard-facing—no worry! Shanks are easily adapted to A-10 Points.

Order Your TIURA Applicator Equipment Now!...Insist on TIURA...The Finest Name in Liquid Fertilizer Applicators!



## TIURA MFG. & SALES

Highway 33 P. O. Box 1087

PATTERSON, CALIFORNIA





## FARM SERVICE DATA

### Extension Station Reports

This is the time of year to kill oak trees on range land with the "cut surface" method, states Monte Bell, Glenn County farm advisor. Striking increases in yields and palatability of range forage have been accomplished by treating trees with straight 2,4-D Amine. Results from a plot put out by Walter Johnson, Placer County farm advisor, showed a 500% increase in feed from the treated area over the control.

The "cut surface" method of treating oak trees is very simple and inexpensive. Axe cuts are made close to the ground surface around the trunk of the tree. The cuts or frills should be three to four inches apart. These cuts form a cup and straight 2,4-D Amine is squirted into them with a pump-type oil can.

If the trees have been properly treated, farmers can expect better than a 90% kill by mid-summer. The total material and labor costs have run from \$4 to \$4.50 per acre. The trees may be killed the year around, but it is easier to do a better job when soil moisture is high.

The Glenn County Agricultural Extension Service is continuing work on oak tree control. A plot has been established on the Bill Sevier ranch at Athena, Cal., and possibilities of easier and cheaper methods are being tested.

This method of range improvement can be permanent, can be accomplished piecemeal, can be done practically and without a large expense, and most important, can pay big dividends, it is claimed.

★

Tomato yields in California have been increased by 10% to 15% through proper use of fertilizer, according to the California Fertilizer Assn.

Research on tomato fertilization has shown that a phosphorus response can be expected on practically any soil type during the critical early spring seedling period when the soil is cold.

During 1956 and 1957 Dr. John C. Lingle of the Vegetable Crops Department, University of California, Davis, has conducted studies in cooperation with local farm advisors of San Joaquin and Yolo counties and has found a significant phosphorus response in all soil types tested under the above conditions. Apparently this low temperature factor helps to induce a temporary phosphate fixation, even in soils with adequate amounts of PO<sub>4</sub>.

He has shown that by placing 25 lb. of P<sub>2</sub>O<sub>5</sub> per acre together with nitrogen in a 1:1, 1:2, or 1:3 N-P ratio, this early phosphate deficiency is overcome, allowing a rapid root development that will in turn produce a much larger plant at the time of flowering. This results in a much larger initial fruit set and a 10-15% increase in total yield.

The association points out that not only is this increase in yield very important, but the implications of the larger first picking should be readily apparent when one considers the lower harvest cost and additional insurance from early fall rains.

★

A Colorado State University extension horticulturist questions the value of applying large quantities of animal manures—or mixtures of manure and peat, soil or sand—to established lawns.

Charles M. Drage says the applications provide only small amounts of plant nutrients. Although they may give the lawn a quick, early green appearance, this may be due largely to increased soil temperature. In addition, he says, the homeowner runs a risk of increasing the weed problem because untreated manures may contain weed seed or provide covering so that weed seed already present will grow.

"Practical use of large applications of manure on established turf is doubtful," Mr. Drage adds. "Turf authorities do not favor the practice."

The horticulturist points out that one ton of dried cow manure will contain from 60 to 94 lb. of plant nutrients. In this total, there will be from 18 to 41 lb. of nitrogen, the nutrient which grass uses in large quantities. Sheep manure is only a little better in this respect. And the nutrients in peat moss are negligible.

If dry manure alone is used to supply the nitrogen needed to maintain an excellent lawn, 400 lb. is needed for each 1,000 sq. ft. of lawn surface. If the manure is fresh or carries a high percentage of moisture, then nearly one ton is required.

"This means that the practical, convenient way to supply plant nutrients to the lawn is through the use of fertilizers of higher analysis," according to Mr. Drage.

A number of dried and processed

manure and manure-peat mixtures are improved by adding plant nutrients.

★

The alfalfa grower who sprays early gets the weevil—and better yields of higher quality alfalfa, says T. R. Robb, Wyoming University extension entomologist.

Wyoming alfalfa growers have found early treatment the most effective and economical way to control destructive weevil.

When alfalfa is treated before it is 2 in. high, five advantages are on the grower's side. Early treatment:

1. Gives excellent control of adult weevils in a single treatment properly timed and thoroughly applied.

2. Avoids insect feeding loss on first crop by preventing egg laying and later worm feeding.

3. Eliminates harmful traces of insecticides at cutting time making the crop safe for forage.

4. Permits the second crop to come up immediately.

5. Does not harm weevil parasites.

Spraying can begin before alfalfa starts showing green leaves. Weevils begin laying eggs at the first sign of spring weather. The longer a grower delays spraying, the more damage weevils will do to the first cutting.

Recommended insecticides are diel-drin or heptachlor when used according to directions and applied thoroughly, says Mr. Robb.

★

A major factor responsible for blackspot of potatoes has been identified by a Washington State College scientist.

Dr. Robert Kunkel, horticulturist at WSC's main experiment station, has been working on the problem that has long plagued potato growers in Washington's Columbia Basin and elsewhere. He finds that lowered

## \$23 RETURN ON \$1 INVESTED

For every dollar spent on insect control in 1957, Colorado farmers realized a return of \$23. That's what entomologists with the Colorado Agricultural Experiment Station reported after a recent year-end survey. The survey shows that growers of potatoes, tomatoes, wheat, lettuce, corn and beans spent a total of \$1,084,000 to prevent insect damage. With this investment, farmers gained an estimated \$23,368,000 in value of undamaged crops. On the other hand, insects attacking unsprayed fields caused losses in excess of \$7,000,000. Greatest losses were suffered by growers of potatoes and field corn.

moisture content in the potato can make it susceptible to blackspot.

Blackspot develops as a direct result of bruising during handling, the scientist says. Twenty-four hours or so after the potato tuber is bruised, a bluish-black spot occurs beneath the skin of the tuber. This spot turns to a starchy grey white eventually.

This spot can't be seen from the outside of the potato. This makes it impossible to catch blackspotted potatoes in grading them. But when the housewife cuts into the potato, the black spots distress her. And Washington potatoes may lose a customer.

This blackspot is a complex thing, Dr. Kunkel has found. It only takes a slight bruise to form the black spots. But the potato itself won't blackspot unless it has been short on water or has lost too much water sometime during its life.

★

Grass can bring a higher income than wheat for many eastern Colorado farmers.

This is especially true for wheat farmers who have been having difficulty getting yields of at least six bushels per acre, according to Harry Sitler, U.S. Department of Agriculture agricultural economist at Colorado State University. Mr. Sitler has recently completed a survey in eastern Colorado in cooperation with the CSU Experiment Station.

For every acre planted in wheat, the farmer's cost is \$12.25. This includes cost of seed, planting, tilling, harvesting, taxes on the land, machine maintenance and depreciation, and interest on equipment, but it does not include interest on land.

With wheat selling at \$1.70 bu., Mr. Sitler figures a field would have to yield 7.2 bu. per acre for the farmer to break even. To make a decent profit, however, he should have a yield of at least 11 bu.

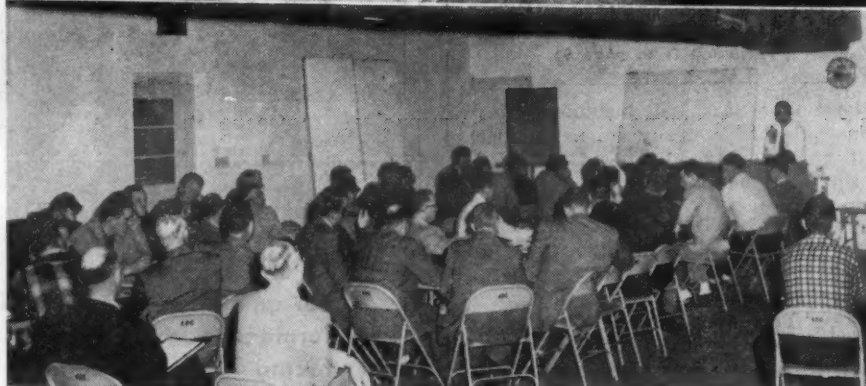
Wheat is the major crop in eastern Colorado. In some areas, however, yields are so low that farmers actually are operating at a loss every year. If, for reasons of weather or soil fertility, they can't get a yield of 7.2 bu., wheat is a losing proposition for these farmers.

## Smut Shows Decline In Pacific Northwest

PULLMAN, WASH.—Smut infestation in the Pacific Northwest was drastically reduced in 1957 from the previous year, two recent reports indicate.

A department of agriculture bulletin indicated that of the 55,000,000 bu. of wheat inspected only 16% tested smutty. This was a decrease of 10.7% from the 1956 report. The bulk of the smutty wheat was of the Elmar variety.

An agricultural marketing service report based on farmer-owned wheat lots showed that of 24,119 lots tested, only 17.4% tested smutty. In 1956 more than 30% of the total graded smutty.



**MISSOURI DEALER TRAINING PROGRAM**—Schools for some 125 dealers were held at three locations in Missouri during the past few months under the auspices of the Missouri Soil Fertility and Plant Nutrition Council. A committee of the council, with John Falloon, extension soils specialist at the University of Missouri, worked out details of the program which featured various specialists from fertilizer companies and University of Missouri soils personnel. In the top photo, Mr. Falloon is seen talking to a group at Warrensburg, Mo., one of three locations set up for the training school. The lower picture shows Dr. Proctor Gull, Spencer Chemical Co., Kansas City, Mo., addressing the audience of dealers, also at Warrensburg.

Dealers present studied the various nutrients in fertilizers and limestone, and their purposes and amounts needed as indicated by soil tests. Central idea for the school project was to get more information to dealers on use of fertilizer in long-time soil-building program, rather than selling fertilizer for short-sighted one-crop deal. Other speakers, in addition to Mr. Falloon and Dr. Gull, included Perry Onstot, Davison Chemical Co., div. W. R. Grace & Co., Baltimore, Md.; George Wickstrom, American Potash Institute, Columbia, Mo.; V. L. Sheldon, Olin Mathieson Chemical Corp., St. Louis; C. E. Scrivner, University of Missouri soils department; and Myron Kelm, Virginia-Carolina Chemical Corp., Dubuque, Iowa.



## Scientist to Continue Wheat Fertilization Work

PULLMAN, WASH.—Dr. Fred E. Koehler, soils scientist, has joined the Washington State College staff to take over the research on fertilizer needs of wheat. Dr. B. R. Bertramson, chairman of the college's agronomy department, said Dr. Koehler will continue the research previously carried by Dr. Glenn Leggett, who resigned last November to become a U.S. Department of Agriculture scientist at WSC's irrigation station near Prosser. Dr. Bertramson said Dr. Koehler's wheat studies at WSC will include field work on rates, time and methods of wheat fertilizer applications, and rotation studies.

In addition, Dr. Koehler will set up controlled laboratory experiments to help pin down the effect of nitrogen and other fertilizer elements on the wheat plant and on the yield and protein content of the food grain. He will also study the effect of climatic factors on methods and time of fertilizer application and on the comparative value of different nitrogen formulations for specific soils and moisture conditions.

## Potash Companies Announce Promotions

CARLSBAD, N.M.—Promotions have been announced by three potash firms here in recent weeks.

Charles Grosso has been named mine superintendent for National Potash Co., according to T. G. Ferguson, vice president and general manager.

Francis L. Pierson has been promoted from senior geologist to chief geologist of the U.S. Potash Division of United States Borax and Chemical Corp. The move was announced by Earl H. Miller, USP vice president and resident manager.

Clyde Rexroad was recently named mine maintenance foreman for the Southwest Potash Corp., according to an announcement by John Sowers, general superintendent.

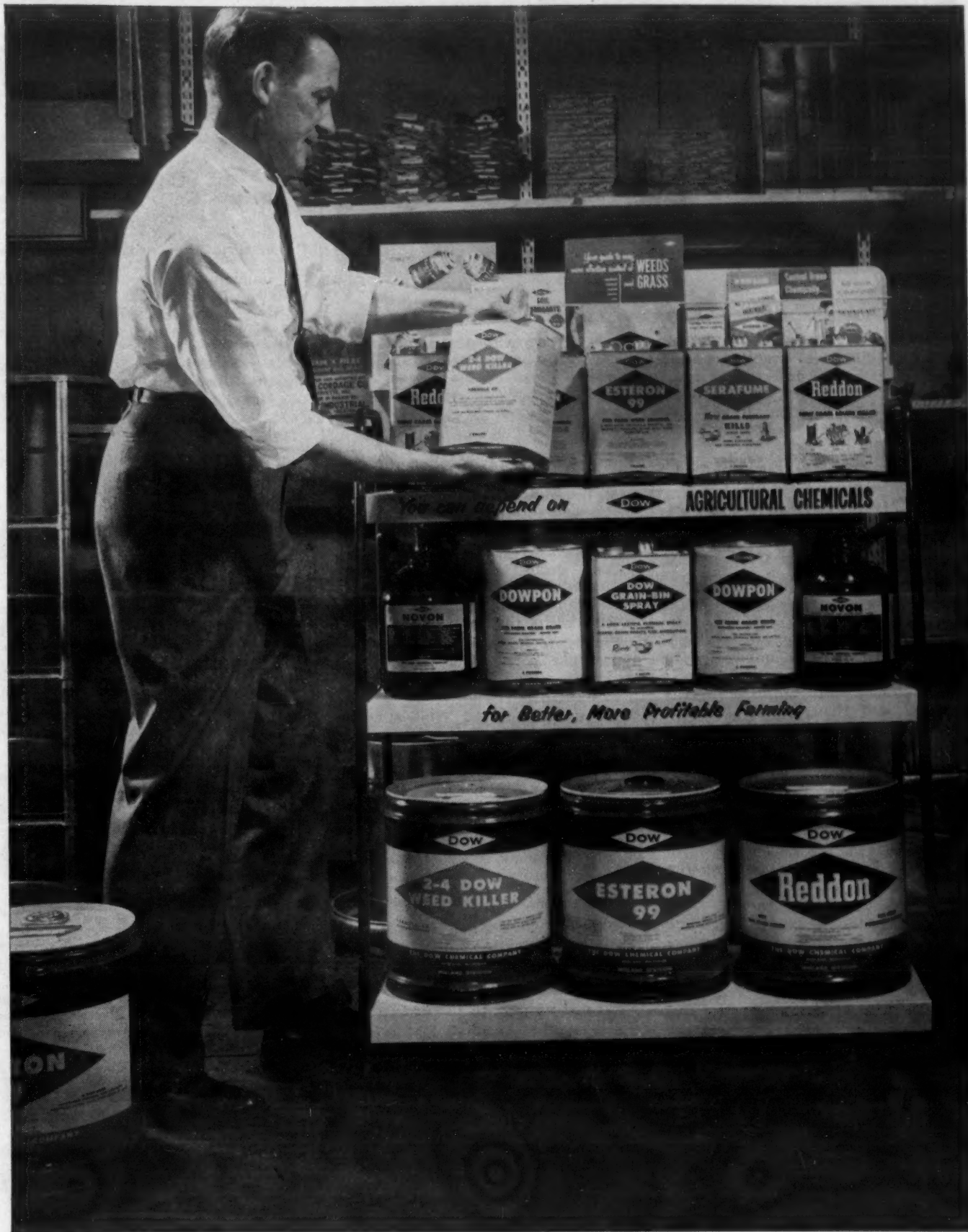
## Phytopaths Offer Book On 1957 Fungicide Tests

WINCHESTER, VA.—A complete booklet, "Results of 1957 Fungicide Tests" has been published by the American Phytopathological Society and is available, the APS has announced. The Society has printed the book privately and offers it for \$1 a copy.

Copies may be ordered from Dr. A. B. Groves, department of plant pathology and physiology, Winchester Fruit Research Laboratory, Rural Route No. 3, Winchester, Va. Dr. Groves says that all orders should be accompanied by remittances made out to The American Phytopathological Society. No charge for postage will be made on prepaid orders, but additional charges will be made for postage and handling where orders must be billed, Dr. Groves said.

## FERTILIZER SAVES ON GROCERY BILL

TUCSON, ARIZ.—If American farmers were farming now as they did in 1940, Arizona housewives would be paying \$60 million more each year for groceries. This estimate is from George W. Campbell, extension economist for the University of Arizona. Back in 1940, each farm worker produced enough crops to feed himself and 11 other persons. Today he produces enough to feed himself and nearly 20 others. This great increase in output per farm worker has been due to higher crop yields per acre, better livestock, more mechanization and improved soil fertility. Commercial fertilizer has been a big factor in helping farmers increase their returns per acre, per hour of work, and per dollar put into crop production, Mr. Campbell says.



## Set yourself up as headquarters in the profitable farm chemicals business

The increasing thousands of farmers who are turning to farm chemicals for more profit . . . can turn into profitable customers for you.

When you become a Dow Farm Chemicals Dealer, you become headquarters for your customers' complete farm chemicals needs . . . not just an outpost for one product or another.

You'll profit by handling the famous line of Dow weed killers, headed by the nation's largest selling brand, Esteron 99\*. You'll be able to supply the exclusive Dow grass killer, Dowpon\*, and the most complete line of specialized soil fumigants. You'll profit with Korlan\*, America's newest, neatest farm fly killer. Customers will come to you, too, for

special needs like defoliant, insecticides and animal health aids like Trolene\*, (Dow ET-57) the new systemic cattle grub killer.

Dow backs you in business not only with strong advertising and effective sales aids . . . but with fifty years of experience in agricultural chemicals. This half century of pioneering assures you the best in present-day products . . . and that you will be first with the newest developments that are to come. Prepare now to profit from selling Dow Farm Chemicals. For further information, just write to: THE DOW CHEMICAL COMPANY, Agricultural Chemical Sales Dept., Midland, Michigan.

\*Trademark of The Dow Chemical Company

Mail to:  
THE DOW CHEMICAL COMPANY  
AGRIC. CHEM. SALES DEPT.,  
MIDLAND, MICHIGAN

NAME \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

☐ Have Dow jobber call ☐ Send 1958 Dow Dealer Plan

☐ Put me on mailing list to receive dealer newspaper—I am:

☐ dealer,

☐ distributor

BRUSH AND WEED KILLERS, SOIL FUMIGANTS, GRAIN FUMIGANTS, INSECTICIDES, IRON CHELATES, FEED ADDITIVES, ANHYDROUS AMMONIA, DEFOLIANTS

Dow presents  
The Red Foley Show  
every Saturday. See radio  
listing for time and station.

YOU CAN DEPEND ON **DOW**





**TO TEST FLUORIDE EFFECTS**—This eight-acre experimental farm located on property of U.S. Steel's sprawling Geneva works near Provo, Utah, is the scene of extensive experiments to determine the effect of fluorides on crops grown in Utah County. As many as 155 different varieties of crops have been grown here in the open air and inside specially designed greenhouses where plants are exposed to carefully measured amounts of fluorine.

## Study of Fluorides On Plants Nears End Of Seventh Year

PROVO, UTAH—Intensive studies on the effects of fluorides on plant life are nearing the end of their seventh year on an eight-acre experimental farm at Columbus-Geneva Steel's Geneva Works near here.

The studies were initiated in 1951 when it was thought that fluorides from Geneva's open hearth furnaces and sintering plant were causing fluorosis among some cattle in the vicinity of the mill.

Agricultural experts and scientists from Utah State Agricultural College were summoned to tackle the agricultural side of the difficult problem—never before encountered in the American steel industry.

Geneva's experimental farm was set up inside the big plant's fence line in 1953 for microscopic studies on the effect of fluoride emissions on crops grown in the area.

The farm—which boasts more agricultural experts per acre than any other known farm of its kind in the world—was staffed with experts in plant pathology, meteorology, horticulture, agronomy and chemistry.

"We also have a cowboy or two and a few darned good farmers," says Lloyd G. Transtrum, supervisor.

Geneva's farm scientists attacked the problem in three phases. First, an

intensive study was made of the production and marketing of important crops in the county, as compared with non-industrial areas.

Next the experimental farm was established to grow all of the important crops of Utah County on plant property, where fluoride levels were considerably higher than in other areas of the county.

Finally, four large greenhouses and 12 smaller portable chambers were constructed and equipped for controlled atmosphere studies.

Crops common to Utah County were grown in filtered, fluoride-free air within the greenhouses and compared with those grown in the open, as well as with those grown in air to which carefully measured amounts of fluorides were added. Precise measurements were then made of the rate of growth, plant metabolism, crop yield and quality.

**The results of these studies have convinced Geneva's agricultural scientists that fluorine emissions from industrial facilities do not affect crop quality, yield or growth rates of crops common to the area, with the exception of small leaf markings on several sensitive plants.**

Another important service of the experimental farm is to provide a testing ground for coal chemical by-products, such as ammonium nitrate, creosote, insecticides and other products marketed for farm use.

Corrective equipment to control fluoride emissions from the plant has been in operation since 1955. However, the testing program has been continued to insure that the steel-making operations do not cause damage to agricultural interests in the area.

## Oregon Store Opens

GRANTS PASS, ORE.—The new Pay 'N' Save Feed and Garden Center here opened for business recently with Joe Schmid, manager, in charge. Mr. Schmid, manager of the Pacific Feed and Seed Co. for 10 years, has long been active in grain and feed circles. Prior to his work with Pacific Feed and Seed here, he had been employed by that firm in Coquille three years and he was with the Farm Bureau Cooperative at Roseburg for eight years.

## SUPPORT FOR LABORATORY

PULLMAN, WASH.—Directors of the three Pacific Northwest agricultural experiment stations have notified Congress they support plans for a proposed regional research laboratory for soil and water conservation. They point out that existing laboratories do not deal with specialized problems of the Columbia Basin irrigation project where more than 1,000,000 acres of new land is scheduled to be brought under cultivation and where there is increasing evidence of expensive failure to make use of available water supply.

## What's Been Happening?

This column, a review of news reported in Croplife in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.

The addition of facilities costing nearly \$1,500,000 enables the Bartow, Fla., triple superphosphate plant of the Davison Chemical Co., Division of W. R. Grace & Co., to produce run-of-pile triple superphosphate, a powder form, as an addition to the granulated material previously produced.

Indications are that the 1958 acreage of crops planted or grown may total about 333 million acres, according to the Crop Reporting Board. If realized, this would be one million acres under the 1957 low level of plantings and would be the smallest national crop planting since 1917.

Stockholders are being asked to approve a change in name of the Allied Chemical & Dye Corp. to Allied Chemical Corp., effective May 1.

The North Central Branch Entomological Society of America, meeting in St. Louis, discussed control of insect pests of forest and shade trees, cereal and forage crops, truck crops and fruit. Some 300 persons attended the three-day meeting.

Potash deliveries for 1957 showed a slight increase over tonnages recorded the previous year, according to an annual report issued by the American Potash Institute, Washington. Deliveries totaled 3,461,578 tons of potash salts containing an equivalent of 2,026,239 tons K<sub>2</sub>O, representing an increase of less than 1%.

Farmers, in stating their intentions for planting 1958 crops, failed to disclose any broad shifts for corn or spring wheat nor did they reveal any particular impact of the soil bank acreage reserve program on corn.

**Speakers at the Western Weed Control Conference at Spokane, Wash., said that control of sagebrush on the 24 million acres adapted to spraying, could save more than \$40 million a year. This amount is measurable by increased forage and livestock production, it was pointed out.**

Speaking before a group of gardeners in New York, many of whom were unfavorable toward spray programs to control or eradicate insects, Donald L. Miller of the National Agricultural Chemicals Assn. staff, Washington, D.C., pointed out that the fire ant itself would kill more quail, for instance, than would the pesticides used to control the insect. Mr. Miller cited statements made by authorities on birds and other wildlife to counter claims by anti-pesticide speakers.

An attempt on the part of southern cotton producers to have their acreage allotments expanded by some 30% was killed when the Senate refused to suspend the rules to take up the acreage allotment increase amendment proposed by Sen. Allen J. Ellender (D., La.).

**Aerial applicators from Ohio and Indiana met at Columbus, Ohio, in a conference to discuss new markets and business possibilities in their areas. Speakers indicated that the use of the airplane in pest control is likely to increase.**

Two Senate committees, agriculture and appropriations, approved a price support and acreage allotment "freeze" for 1958. There was no time set for the duration of the arrangement.

A college-industry fertilizer advisory council was formed in Iowa. It will be known as the "Iowa Fertilizer Council" and comprises the fertilizer industry, the state department of agriculture and the State College. John Porter, Iowa Plant Food Co., Des Moines, was named chairman of the group.

The Texas Agricultural Aviation Conference and Pest Control Short Course was held at College Station with some 350 persons present. Reports on pest control results of 1957 trials and recommendations for the new season were made at the meeting.

The value of insecticides and fertilizer materials in the production of cotton were emphasized at the Western Cotton Production Conference held at El Paso, Texas, March 4-5. More than 500 persons were in attendance.

**Fertilizer dealers in Montana met at Montana State College to attend a convention sponsored by the Montana Plant Food Assn. Speakers, representing the fertilizer industry and Montana State College, urged the dealers to learn more about their products in order to give farmers more service and information.**

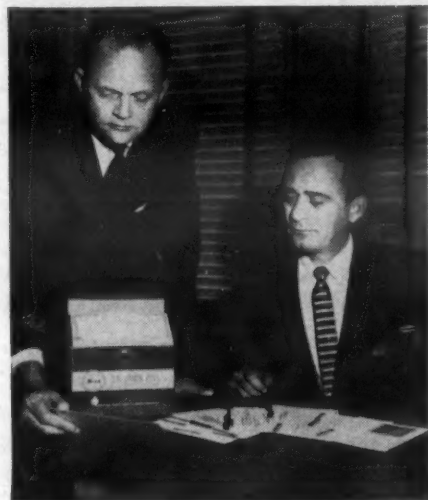
The State of California amended its regulations governing use of 2,4-D to exempt from the permit requirements, two products: a wax block impregnated with 2,4-D for control of broad leaf weeds in grass, and the other a diluted solution in a quart container.

The possibility of an additional 30% of cotton acres for 1958 was seen in recommendations coming from the Senate. The agriculture committee planned to ask a suspension of Senate rules to permit cotton farmers to increase their acreage allotments.

The Minnesota Nitrogen Conference, held at St. Paul Feb. 20-22 featured representatives of Upper Midwest land grant colleges, the fertilizer industry, and experiment station personnel on the program. The extent of a great untouched potential for nitrogen use was emphasized by the speakers.

**Niagara Chemical Div., Food Machinery & Chemical Corp. announced it is building a new pesticide plant at Greenville, Miss. In charge of the operation, slated to begin production this spring, is Horace W. Lee.**

The eleven-man committee making a study of TVA fertilizer activities will continue to offer recommendations and suggestions to the agency for the long run. Its chairman, Dr. Earl O. Heady, Iowa State College, said members of the committee were presently making individual recommendations to TVA, but that the committee would operate as a unit later.



**FACT FILE**—A digest of fertilizer facts that took five years to compile has been made available to western growers by the Collier Carbon & Chemical Corp., Los Angeles, manufacturer of Brea Brand fertilizer products. The new information source is called a "Solution File" by the company, and includes case history answers to questions such as how, when, what spacing and what depth to apply fertilizer solutions. Information is filed according to crop and area. Examining a file here are R. L. Luckhardt, supervisor, agricultural technical service (left), and R. H. McGough, manager, agricultural chemical sales.





Doing Business With

# Oscar & Pat



By AL P. NELSON  
Croplife Special Writer

As usual, Oscar Schoenfeld came to work at 6:45 that rainy spring morning. He was always the first one on the job every day. Once when a boy he had had a boss who had docked him a half hour's pay because he was 10 minutes late for work due to a blocked train crossing. It was a lesson Oscar had never forgotten. To compensate for the possibility of being late, he always kept his alarm clock 15 minutes ahead of the kitchen clock.

Too, Oscar liked to be all alone in the big salesroom of the well stocked farm supply store. He liked to thrust his thumbs into the armpits of his vest (he still insisted on wearing them) and then in a mixture of German and English he would, as he stalked up and down, "tell off" Pat McGillicuddy for spending so much money, for failing to collect delinquent accounts regularly. Tillie Mason, the bookkeeper, too, came in for her share of reprimands during these little lectures.

But when Tillie and Pat came Oscar was seated primly at his desk figuring discounts, a critical look on his face. He always wanted to be seen, during working hours "hitting the ball" in his own, odd way.

This morning he sloshed water from his battered felt onto the floor, hung up his raincoat, before he looked around. When he did walk toward his desk, he suddenly stopped short. His breath was drawn in sharply.

"Ach du lieber! Was ist?"

He stared at the floor near the railed in office. There stood perhaps 50 metal placard holders. They were metal stands with an oblong top to hold signs.

"Ach," said Oscar disgustedly, "again he spends money. And in these times. That dumbkopf!"

He reached down, subjected his pot belly to a little muscular pressure, picked up a metal holder which had a sign in it. His face was red from the exertion.

Critically he looked at the copy. "Fertilizer Pays. Get \$3 to \$5 More in Crops for Every \$ You Invest."

"He thinks that stuff sells fertilizer!" Oscar exclaimed. "Ya, sure it sells—those that ain't got the money to pay. Who's the suckers? Us!"

He picked up another sign. Copy said, "Save Your Evergreens. Use OSPA X34 to Kill Red Spiders and Other Mites."

"He's after spiders now!" thundered Oscar. "Why don't he go after them customers that haf not paid for six months. Ach, they are worse than spiders."

Disgustedly he picked up another sign. "Save Your Back. Put the Hoe Away. Make Gardening Fun with This Powerful, Low Cost Tractor . . . Only \$3.85 per week . . ."

"Such a business!" Oscar growled pacing back and forth. "Ach, he wants to sell to people who can pay only \$3.85 per week. What's the matter with the cash customers? They are the ones we want aroundt here."

The door opened and Pat McGillicuddy came in, followed by Tillie Mason.

"This schtuff!" Oscar cried to Pat. "Why are you spending more money for sales promotion when times are like this?"

Pat McGillicuddy slowly took off his raincoat. "Because no business can afford to keep still, good times or poor. Either you sell—or go out of business."

"Ach, we are going outt of business then," Oscar burst forth. "Here I work hardt to get money paid in and you spendt for foolishness like this. Those metal stands cost a lot of money!"

"I bought them at a store auction," Pat said, "at 15¢ each. They are a bargain."

"We can't pay Saturday wages with metal stands," Oscar said caustically. "And the painting of the signs costs something, too."

"We'll use the signs to sell more merchandise, Oscar," Pat said levelly, "and Nora and I painted the signs ourselves to save money. I wanted to hire the job done, but Nora suggested we do it ourselves."

"I am glad that someone in your family has sense," Oscar said.

"I'm going out to get a cup of coffee," Tillie said. She had not removed her coat. "When you are through arguin' call me at the Coffee

Pot and I'll come back." Quickly she went out the door.

"Many people have money, Oscar," Pat said patiently. "They are not all unemployed. Those with money want specific buying ideas. Each one of those signs has one such idea. The signs put an idea into the heads of customers as they walk around the store, one idea at a time."

"YOU got too many ideas!" Oscar shouted. "You will bankrupt us. Ideas—they are like a disease that got you."

Pat shook his head. "I leave the bill paying end of the business to you, Oscar, but I know how to sell. We can't depend on people to pick up a can of insecticide and read a label. We have to put one sales producing sign in every department. A sign that sums up what's on the label. The sign will get people curious. Then they might pick up the can and read everything that's on the label. Point

of sale advertising, that's what it is."

"Ach," Oscar said, "I don't go for that schtuff! If they want it let them come in and buy it—if we have it."

"That's just it," Pat said sharply. "They won't know we have it unless we tell them."

"Well, you go and tell customers that owe us money that we want them to pay up!" cried Oscar, his face white. "How about sending some of them a sign when they order something charged 'REMEMBER WE WANT OUR MONEY THIS YEAR . . . NOT NEXT'?"

"Oh, Oscar," Pat said patiently, "we couldn't do that. That wouldn't be good public relations."

"Ach, if those public relations are just as bad as my relations then they are no goot," Oscar snapped. "I tell you, Pat, if you don't collect, ach, I will burn those signs some morning when I come down. And you can't stop me. You will be sleeping, like you always are, when I open up."

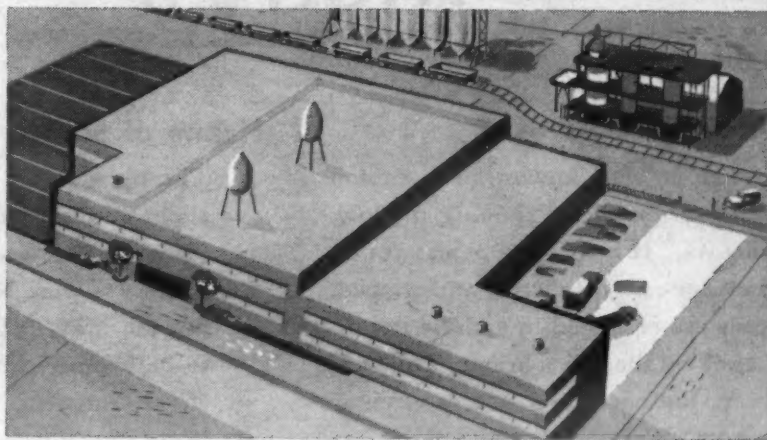
## FIRM LEASED

ONTARIO, ORE.—The Valley Wholesale and Warehouse Co. has been leased by the J. R. Simplot Co. It will be called the Valley Fertilizer Co. and will be operated as a separate unit. David Powers has operated the business for many years.

# SOMETHING NEW...



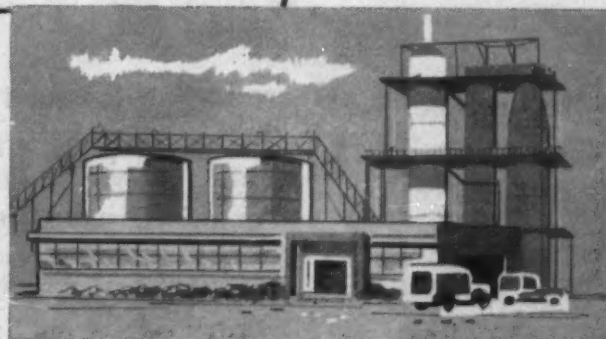
has been added for  
Western Agriculture



A. R. Maas Chemical Co. new Richmond plant.

The A. R. Maas Chemical Co's new Richmond plant assures Western agriculture of a steady and reliable supply of phosphoric acid fertilizer solutions.

This new plant, coupled with Maas' South Gate plant, provides an unlimited source of agricultural P<sub>2</sub>O<sub>5</sub>.



A. R. Maas Chemical Co. South Gate plant.

Call or write . . .

**A. R. MAAS CHEMICAL CO.**  
Division of Victor Chemical Works

GENERAL OFFICES: 4570 Ardine St. • South Gate, Calif. (LUdlow 8-2214)

PLANTS: Richmond and South Gate, California





# WEED OF THE WEEK

Mr. Dealer—Cut out this page for your bulletin board



## Mallow

(*Malva rotundifolia* L.)

### How to Identify

This weed is also known as common mallow, dwarf mallow, running mallow, and "cheeses." It has leaves nearly round with the edges slightly lobed and crisped. The seeds are arranged in a circle within a cup made by the calyx bracts. They are dark grey, flattened, and nearly circular with a notch at one side. The plant has a prostrate habit of growth, with stems extending from the crown from one to three feet.

### Where Mallow Is Found

The weed is found largely in cultivated ground, farmyards, waste places, and in lawns. One reason for the ubiquity of the plant is the fact that clover and lawn seeds often contain mallow seeds as well. Distribution of the plant is general throughout the north central states.

### Habits of Mallow

The plant is an annual or biennial with short straight taproot, reproducing only from seeds. Seeds are reddish-brown, about  $1\frac{1}{2}$  mm. long, notched. The plant flowers May to October, and seeds June to November. Mallow is not a native of North America, having been introduced from Eurasia.

### Control of Mallow

Chemical herbicides are effective in controlling this plant but, according to some authorities, several applications of 2,4-D are required to eliminate it completely from a given area. Cultural methods include plowing up infested land where possible, and planting to a cultivated crop. Hoeing or pulling up the plant before the development of seed is effective where only a small area is affected.

Photograph of Mallow furnished through courtesy of The Dow Chemical Co., Midland, Michigan.



## ESA

(Continued from page 1)

cattle parasites showed sufficient promise to warrant a much larger program. The one launched last year involved 2,000 head of livestock.

Significant results were obtained in the tests, he reported, with the treated cattle averaging 1.3 grubs each as compared to 15.4 on the untreated livestock. However, some toxic effects were noted under some conditions, pointing up the problem, he said, of how to offer adequate recommendations for indiscriminate use of the products. He pointed out that systemics can be used without too serious ill-effects, but more care must be taken than the average cattleman is likely to give.

Results though significant in the over-all picture were not always outstanding, Dr. Rogoff said. Under adverse field conditions, the reduction in grub counts following spraying was not as great as that achieved under the optimum situation at the experiment station. Under favorable conditions, spraying reduced the number of grubs to 2.5 per animal among 43 treated heifers as contrasted to a count of 22.1 grubs per animal on 37 untreated bulls. Although treatment reduced the number in all tests, under field conditions the contrast was not so great, he said.

Dr. R. A. Sturdy, research director for the Moorman Manufacturing Co., Quincy, Ill., showed a series of slides demonstrating the beneficial results of feeding various amounts of systemic insecticides to cattle for grub control. The test animals, with the hair shaved off of large areas of their backs, presented evidence of the successful program. Check animals had large lumps and bulges all over the clipped area, while the treated stock presented sleek, flawless surfaces completely free from parasite damage.

No off-flavor, toxic effects, nor other evidence of injury either in the animal or its meat was detected, Dr. Sturdy said. Some of the cattle were fed much larger doses of the systemic materials than would normally be necessary.

A talk on the intricacies of radioisotope determination of the distribution and fate of systemic insecticides in animals was given by Dr. C. C. Roan, Kansas State College. His discussion, mathematical in content, indicated that the use of isotopes is helpful in the detection of residues in animals, but because of deterioration of the isotopes over a period of time, such use does not provide an absolute measurement because of variables involved.

The annual banquet, held Thursday evening, March 27, featured singing

## RESOLUTION PASSED

ST. LOUIS—The North Central Branch of the Entomological Society of America, at its business session here on Friday, March 28, passed the following resolution:

"WHEREAS, the misuse and injudicious use of insecticides inevitably result in adverse criticism and in some cases bring actual discredit on otherwise sound insect control practices, and

"WHEREAS, such criticism tends to discredit entomologists and the entomological profession,

"BE IT RESOLVED, that we, the entomologists of the North Central States Branch, here assembled, condemn unsound and unproven practices, and solicit the cooperation of all agencies engaged in insect control practices in an all-out effort to eliminate the use of unsound and unproven practices, and to secure the immediate correction of any defects that may be detected."

by the St. Louis police quartet, and a dancing act. Stirling Kyd, University of Missouri extension entomologist, was toastmaster of the evening.

The Branch voted to hold its 1959 meeting at Columbus, Ohio, during the last week of March. Exact dates and meeting place will be announced later.

## SEEKS PEST ENEMIES

BERKELEY, CAL.—Blair R. Bartlett, associate entomologist at the University of California, Riverside, has left for South Africa, where he will search for natural enemies of California fruit pests. Mr. Bartlett's search will concentrate on discovery of natural enemies of the principal scale insects and mealybugs attacking citrus. He will airmail live specimens to the quarantine facilities of the Citrus Experiment Station, Riverside, where they will be screened and studied for possible release in California.

## New Potato Disease In California Fields

SACRAMENTO, CAL.—Reports of a new virus disease of potato have been made by the bureau of plant pathology of the University of California. The disease, first reported on Feb. 25, 1958, was present in four potato fields of the Kennebec variety, on three properties, the report states. Members of the state bureau of plant pathology and the Monterey County agricultural commissioner's office examined the fields which had been grown in 1957. Two of the fields had been harvested and two were still being harvested. Tubers showing symptoms were found in all four fields.

Observations by Dr. J. W. Oswald of the department of plant pathology of the University of California indicated that the symptoms were found only on the Kennebec variety, but it was the only variety in the infested fields.

CROPLIFE, April 7, 1958—17

Evidences of the disease were described as follows: "Necrotic rings and arcs occurred on the surfaces of the tubers, usually on the distal end. Beneath the rings and arcs, dark necrotic tissue was found extending as deep as a quarter-inch into the flesh of the tuber. Also, necrotic flecks, not directly connected with the surface markings, were found scattered throughout the flesh of the tuber. It was these internal necrotic fleck discolorations, found during processing of the tubers for potato chips, which led to the discovery of the disease. There was no opportunity to observe above ground symptoms in the field because of the lateness of the season. The tops had all died."

Research by Dr. Oswald thus far has indicated that the virus causing the disease is retained in the soil and that this disease appears to be similar to one in Europe caused by a soil-retained virus and known there as potato stem mottle.



**Emulsol**

**QUALITY EMULSIFIERS PLUS FULL USE DATA**

**"Double-Barrelled" Help for Pesticide Formulators**

Getting the answers to tough emulsifying problems has been a major objective of Emulsol for more than 25 years.

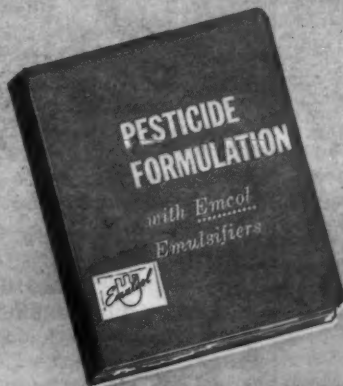
This experience has provided a double-barrelled approach to help pesticide concentrate formulators. *First:* versatile emulsifiers of uniform unsurpassed quality for top performance—the *Emcol* standard of quality. *Second:* Full use data based on both laboratory experience and actual field tests of *Emcols*.

Get in touch with Emulsol and put this double-barrelled approach to work for you.

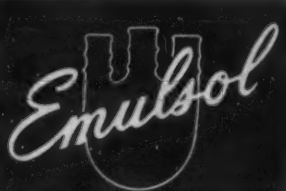
Send for our "just published"  
**FULL USE DATA Handbook**

OR

Check with any of Emulsol's  
**Eight Sales Offices**



Serving Agriculture  
and Industry  
with EMCOL  
emulsifying agents



Dept. CR-4

**EMULSOL CHEMICAL CORPORATION**

division of Witco Chemical Company

75 East Wacker Drive • Chicago 1, Illinois

Chicago 1, Illinois, 75 E. Wacker Dr.  
New York 17, N.Y., 122 E. 42nd St.  
Akron 8, Ohio, 213 W. Bowery St.  
Boston 9, Mass., 141 Milk Street  
Dallas 18, Texas, 415 Hambrick St.  
Houston 19, Texas, 1 Briar Dale Court  
Los Angeles 5, Calif., 3460 Wilshire Blvd.  
San Francisco 27, Calif., 80 Stonestown





E. M. Bond



George W. Williams

**SALES PROMOTIONS**—The Chase Bag Co. has appointed George W. Williams as acting manager of its branch in Dallas, Texas, filling the vacancy left by the death of J. A. White, Jr., former manager. E. M. Bond has been named sales manager at Dallas. Mr. Williams, a veteran of 37 years in the bag business, was, until his appointment, a special representative for Chase in the area served by the Dallas branch. Mr. Bond, a native of Tennessee, became associated with Chase in 1950 as a sales representative at New Orleans. Prior to his most recent promotion he spent six years in Chase's Chicago sales office.

### Trace Minerals Give Consistent Yield Increases In Southwest Research

SAN ANTONIO, TEXAS—Trace mineral fertilization may be a vital factor in the establishment of new forage crops in south Texas and the resultant increase in crop yield and quality can be of great importance to the cattle industry.

On a basis of four years research findings, scientists of Southwest Agricultural Institute (SAI), San Antonio, point to the soil building program as an economic boon to the southwest.

Studies, nursery tests and actual field testing have been carried out with the cooperation of the Coastal Bend Field Station, Taft, Texas, the Santa Gertrudis Division of the King Ranch, near Kingsville, and the Pel Star Cattle Co., Los Fresnos, in a fertilizer research program supported, in part, by Calumet and Hecla, Inc., the Climax Molybdenum Co. and the American Zinc and Lead Smelting Co.

The application of phosphate to crops, including soybeans, mung beans, guar, alfalfa, bur clover, milo and sesbania, consistently increased crop yields but the inclusion of the trace minerals of copper, molybdenum and zinc increased the yields over and above that of phosphate fertilization alone.

"The degree of response varied with the type and variety of crop and the source of the trace element," Dr. C. L. Shrewsbury, acting director of the Southwest Agricultural Institute, said.

On a test plot near Brownsville, for example, bur clover fertilized with phosphate alone yielded a fresh weight of 14,851 lb. to the

acre; a fertilizer containing phosphate and molybdenum yielded a fresh weight of 15,920 lb. to the acre; whereas the use of phosphate, molybdenum, copper and zinc gave a yield of 17,963 lb. to the acre compared with 12,934 lb. per acre from unfertilized land.

In a program completed recently near Taft, fertilizer containing phosphate alone brought about a 16% increase in soybean forage over an untreated plot. Yields of treatments containing phosphate and one minor element ranged from 10.9% to 40% greater than the untreated plot. Yields containing phosphate, molybdenum and one of the minor elements ranged from 13.1% to 46% increase over the untreated plot while treatments containing phosphate, molybdenum, copper and zinc brought about a 38.4% increase over the untreated plot and an increase of 20% more than that of phosphate alone.

Dr. Shrewsbury said that the research program will be continued at an accelerated pace in an effort to help farmers and ranchers increase legume and forage production in the Southwest.

### Florida Sales

TALLAHASSEE, FLA.—Fertilizer consumption in Florida during February totaled 143,587 tons, according to the Florida Department of Agriculture. This total included 106,681 tons of mixed goods and 36,906 tons of materials.

### HORTICULTURISTS TO MEET

CORVALLIS, ORE.—The annual Oregon State Horticultural Society meeting will be held Nov. 20-21 on the Oregon State College campus.

### New York City Gets Sanitary Code Draft

NEW YORK—Proposed changes in the sanitary code of the City of New York have been drafted by the department of health. They include the labeling and handling of hazardous substances to give users "sufficient indication of the dangers involved" so all necessary precautions might be taken to avoid harm. Rodenticides, insecticides, and gas masks for use in fumigation are included among the materials mentioned specifically in the proposal. The transfer of hazardous substances; re-use of containers; false or misleading advertising; and labeling are also covered.

According to Dr. Leona Baumgartner, commissioner of health, the sanitary code of New York City is often used as a model for legislation in other cities and states. Developments in perfecting the code are consequently of considerable interest to the trades involved.

A new section on transferring hazardous substances has been drafted. It provides: "no person shall transfer a hazardous substance from one container to another without affixing to the new container the label required by this article."

It also states: "no person shall use, possess, hold for sale, sell, give away or leave in any place a hazardous substance in a food, drug, or cosmetic container which bears a food, drug or cosmetic label or imprint, or which is identifiable as a food, drug or cosmetic container by its characteristic shape, impression or closure."

Provisions for labeling are drafted to include containers, wrappers and accompanying literature as well as the label on the substance itself. The requirement applies to all hazardous substances, not only to the "retail package" of the article intended for household use. One draft also requires labeling of all products including those for commercial use.

Specific rules are proposed for rodenticides and insecticides in the proposed code. It calls for coloration of certain toxicants, in the following language: "No person shall sell, hold

for sale, give away, leave exposed in any place or use as a rodenticide or insecticide, sodium fluoride or a mixture containing sodium fluoride, unless it is colored Nile blue, pale Nile blue or microline green as designated by Ridgway's color standards and color nomenclature. If sodium fluoride is held for sale or sold at retail in powdered form in a quantity of five pounds or less, for use as a rodenticide or insecticide, it shall be packed in non-refillable containers.

"No person shall prepare, manufacture, sell, hold for sale, give away, leave in any place or use a rodenticide or insecticide which has as its active ingredient live microorganisms, unless approved by the department, but approval shall not be given for microorganisms which are or may be dangerous for human beings."

Provisions for gas masks used in fumigation require that all such masks for this purpose must be "of a type approved by the U.S. Bureau of Mines as suitable for fumigation." They must also bear the stamp of approval of the bureau. It is also stated that "no person shall refill any cannister for use in connection with fumigation after the cannister is exhausted, and no person shall use a refilled cannister in fumigation."

### Research Donations

BERKELEY, CAL.—Five donations to the University of California swelled its agricultural chemical research till by \$14,580 during the month of January, the division of agricultural sciences reports. The Beet Sugar Development Foundation gave \$5,000 for research on nematode-plant relationships on sugar beets. Another \$5,000 was given by the American Petroleum Institute for research on the effect of polluted atmosphere on vegetation. The American Cyanamid Company gave \$2,500 for plant physiological studies with the compound amino triazole; Di Giorgio Fruit Corp. donated \$1,880 for a study of grape virus diseases; and \$200 was given by West Contra Coast Farm Bureau Center for research on current air pollution work involving ascorbic acid spray on various growing plants.

### Industry Patents and Trademarks

2,828,182

**Use of Chelating Agents in Fertilizers to Enhance the Growth of Plant Life.** Patent issued March 25, 1958, to Nicholas D. Cheronis, Brooklyn, N.Y., and Albert Schatz, Orelan, Pa. In a method of enhancing the growth of plant life in earth soils, the step which comprises adding to the soil in which the plant life is grown, a small amount of a micro-biologically stable organic chelating agent.

2,828,198

**Plant Growth Regulants and Herbicides.** Patent issued March 25, 1958, to Walter D. Harris, Naugatuck, and Albert W. Feldman, North Haven, Conn., assignors to the U.S. Rubber Co., New York. A plant growth regulant and herbicide comprising a poly (chlorophenoxyethyl) phosphite, said phosphite being present in a plant growth regulant concentration.

The method of controlling weeds in soil which comprises treating the soil before emergence of weeds with a poly (chlorophenoxyethyl) phosphite, said phosphite being in a herbicidal concentration.

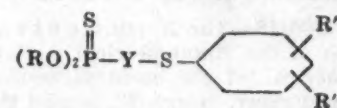
2,828,210

**Method of Inhibiting Bacteria, Mold, etc., Growth on Strawberries.** Patent issued March 25, 1958, to Herman J. Keller, Dunedin, Fla., assignor to Brodrex Co., Orange County, Fla., a corporation of Florida. A method of inhibiting the growth of bacteria, mold, and other destructive organisms on strawberries comprising the steps of subjecting strawberries to an atmosphere containing a member of the group consisting of trichloroethane, trichloroethane, and ethylene

dichloride, and trichloroethane and propylene dichloride to inhibit the growth of bacteria, mold, and other destructive organisms, and insuring substantially blanketing contact of the gas with the fruit.

2,828,241

**O,O-Dialkyl S-Arylmecapto Phosphorodithioate Compositions and Method of Destroying Insects.** Patent issued March 25, 1958, to Gail H. Birum, Dayton, Ohio, assignor to Monsanto Chemical Co., St. Louis, Mo. An insecticidal composition comprising an oil-in-water emulsion containing a toxic quantity of an arylmercapto ester having the formula



in which R is an alkyl radical of from 1 to 12 carbon atoms, Y is selected from the class consisting of —O— and —S—, and R' and R'' are selected from the class consisting of hydrogen, alkyl radicals of from 1 to 8 carbon atoms, halogen radicals, and the radicals —NO<sub>2</sub>, —CN, and —COOH.

### Industry Trade Marks

The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 20.1 to 20.5.) As provided by Section 31 of the act, a fee of \$25 must accompany each notice of opposition.

**Dugro**, in capital letters, for plant stimulator. Filed June 6, 1957, by Walter Ratner, doing business as the Grant Co., Chicago, Ill. First use May 24, 1957.



**PRIMARY PRODUCERS OF FERTILIZER CHEMICALS**

Nutritional Trace Elements Are Our Business. Foliar Nutritional Products Include NU-IRON, NU-Z, NU-M, ES-MIN-EL.

Make request on your Company letterhead for samples or literature.

**TENNESSEE CORPORATION**

617-629 Grant Building, Atlanta, Ga.

**MANGANESE SULFATE  
MANGANOUS OXIDE  
COPPER SULFATE  
ZINC SULFATE  
IRON SULFATE  
MINERAL MIXTURES**



## Fertilizer Reduces Pasture Need Of Dairy Heifers

DULUTH, MINN.—Fertilizing pastures can nearly cut in half the amount of grazing land needed for young dairy heifers, according to research findings at the University of Minnesota's Northeast Experiment Station, Duluth.

W. W. Nelson, agronomist at the Duluth station, reports that heifers on fertilized pasture areas in 1957 required only 52% as much grazing area during the season as did their twin sisters on unfertilized grass.

Since the experiment started in 1955, the fertilized areas have received 60 lb. nitrogen and 40 lb. each of phosphate and potash each spring, plus 33.5 lb. of nitrogen top-dressing per acre in the summer. Fertilized plots also received 4 tons of lime per acre the first year.

Each year, identical heifer twins or sister heifers were divided so that one of each pair would be on fertilized pasture and one on unfertilized grass. The heifers received no other feed.

There was no difference in the amount of pasture used by heifers on fertilized compared to unfertilized areas in 1955. But in 1956, those on fertilized pasture required only 62% as much area as did heifers on unfertilized grass. Last summer, it took twice as much area to feed the heifers on unfertilized pasture.

Also, heifers each summer gained more rapidly on the fertilized pasture. In 1957, the daily gains averaged .93 lb. for fertilized grass and .64 lb. on the unfertilized area. Fertilized pasture produced 436 lb. of heifer gain per acre in 1957, compared to only 148 lb. per acre on the unfertilized pasture.

## Illinois Pest Control Clinic Scheduled

URBANA, ILL.—A century of scientific research and achievement in the Illinois State Natural History Survey will be described by Dr. H. B. Mills, survey chief, April 16 at a University of Illinois Pest Control Clinic. Dr. Mills will speak on "The First Hundred Years" at a banquet of the fifth annual Pest Control Clinic, April 15-17 at Allerton Park, University of Illinois conference center near Monticello.

The survey will cooperate with the University of Illinois, Illinois Bureau of Business Management and Division of University Extension in presenting the Pest Control Clinic. A co-sponsor is the Illinois Pest Control Assn. Speakers from the survey and the university faculty will discuss such topics as management problems, employee evaluation, personnel supervision, new developments in pest control chemicals, new ways to use insecticides and selection and care of equipment.

## Western Shade Tree Conference to Meet

ANAHEIM, CAL.—The silver anniversary meeting of the Western Chapter, National Shade Tree Conference will be held May 21-24 at the Disneyland Hotel here.

"Trees, God's Creation—Our Responsibility" is the theme of the conference. Edward H. Scanlon, editor of Trees Magazine, published in Olmsted Falls, Ohio, will keynote the conference. Trees as they affect urban living will be discussed by Leslie Mayne, arborist of San Mateo, Cal., Carl J. Thornton, city manager of Santa Ana, Cal., and Dr. John Middleton of the University of California Citrus Experimental Station at Riverside, Cal.

Other speakers will cover problems of the administration of personnel in the tree industry and in municipal tree operations. Other topics at the

meeting will be automobiles and trees, overhead utilities and their relationship to trees, diseases of trees and control of same, tree selection and planting practices, soils and irrigation and the place of the arboretum in the community. One of urban development's major problems—that of air pollution and its effect on trees and plants will come in for discussion led by Dr. John Middleton.

## IMC Names New District Sales Manager

CHICAGO—International Minerals & Chemical Corp. has announced the appointment of Richard V. Falck as district sales manager in the special products department of its phosphate chemicals division, with headquarters in Arlington, Texas.

Mr. Falck came to IMC as a sales representative in the phosphate chemicals division's Chicago offices in 1955, after two years in the sales department of Lederle's Laboratories,

Inc., Pearl River, N.Y. Formerly he was in sales work with McMillen Feed Mills, Ft. Wayne, Ind.

A graduate of the University of Wisconsin in 1950 with a B.S. degree in animal husbandry, Mr. Falck served in the U.S. Navy from 1943 to 1945.

## ALFALFA SPRAY PROGRAM

BERKELEY—Current control measures for insect pests of alfalfa hay are given in the newly issued University of California leaflet, "1958 Spray Program for Alfalfa Hay."

## Fruit Spray Guide

STATE COLLEGE, N.M.—"Fruit Sprays for New Mexico," a new guide to assist New Mexico orchardists with their control of insects and diseases, is now being distributed by the Extension Service, New Mexico A&M College. John J. Durkin, extension entomologist, is author of the publication.

## Research Indicates Shorter Waiting Period

BERKELEY, CAL.—Citrus fruit treated with certain insecticides for orangeworms can be picked safely 14 days after spraying, according to residue studies at the University of California, Riverside. Tests have shown that a 30-day wait between treatment and harvest is no longer necessary, according to E. L. Atkins, Jr., associate specialist in charge of orangeworm investigations.

The lower dosages of DDT, TDE (DDD) or parathion used in orangeworm control, require a waiting period of only 14 days, says Mr. Atkins. The original 30-day period was determined for insecticide dosage levels used in controlling scale insects. The reappraisal of the waiting period resulted from increased economic importance of orangeworms and the need for harvesting fruit during such infestations, Mr. Atkins said.

# "My Customers prefer Phillips 66 Ammonium Nitrate"

—Marvin Blair, King City Elevator, King City, Missouri



Marvin Blair (left) is a successful fertilizer dealer, serving farmers in Gentry and De Kalb counties in Missouri.



**Proof of Performance:** Users of new Phillips 66 Ammonium Nitrate find it easier to store and spread . . . the result of an exclusive Phillips 66 process that gives hard, dry and uniformly round prills that prevent caking and clogging in the applicator.

**Mr. Blair says:** "As a mixed fertilizer dealer selling supplemental nitrogen, I'm sold on the new uniform quality, storability and spreadability of the new Phillips 66 Ammonium Nitrate. My customers prefer it."

**The outstanding performance** of new free flowing Phillips 66 Ammonium Nitrate is winning new customers for other dealers, too. Their farm customers have discovered that the uniformly round, hard and dry prills provide free flowing application . . . no clogging or caking . . . for more uniform crop response.

**Dealers get other extras, too,** when they handle Phillips 66 Ammonium Nitrate. Consistent, convincing advertising of Phillips 66 Ammonium Nitrate in leading farm papers, personal service from Phillips 66 field men, and prompt deliveries are included in the profitable benefits of selling Phillips 66 Ammonium Nitrate. Order your supply of Phillips 66 Ammonium Nitrate today.



## PHILLIPS PETROLEUM COMPANY

### SALES OFFICES:

AMARILLO, TEX.—First Nat'l Bank Bldg.  
ATLANTA, GA.—1428 West Peachtree Street, N.W.  
Station "C" P. O. Box 7313  
BARTLESVILLE, OKLA.—Adams Bldg.  
CHICAGO, ILL.—7 South Dearborn St.  
DENVER, COLO.—1375 Kearney St.  
DES MOINES, IOWA—6th Floor, Hubbell Bldg.

HOUSTON, TEX.—6910 Fannin Street  
INDIANAPOLIS, IND.—1112 N. Pennsylvania St.  
KANSAS CITY, MO.—500 West 39th St.  
MINNEAPOLIS, MINN.—212 Sixth St. South  
NEW YORK, N.Y.—80 Broadway  
OMAHA, NEB.—3212 Dodge St.  
PASADENA, CALIF.—317 North Lake Ave.

RALEIGH, N.C.—401 Oberlin Road  
SALT LAKE CITY, UTAH—68 South Main  
SPOKANE, WASH.—521 East Sprague  
ST. LOUIS, MO.—4251 Lindell Blvd.  
TAMPA, FLA.—3737 Neptune St.  
TULSA, OKLA.—1708 Ulica Square  
WICHITA, KAN.—501 KFH Building



CUT SPREADING COSTS IN HALF . . .  
DOUBLE SPREADING EFFICIENCY WITH

**HI-WAY NEW LEADER**  
**LIME and FERTILIZER**  
**SPREADERS**

**MODEL**  
**L42S**  
**3 MATERIAL**  
**SPREADER**



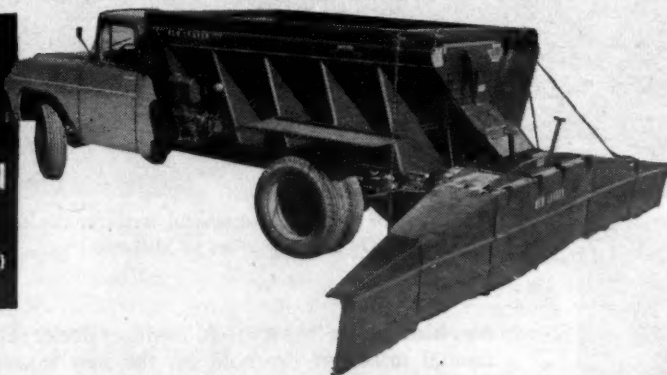
The Model L-42S Mobile Blender permits you to mix and spread any analysis of dry fertilizer your customer needs. Simply spreads three straight materials—nitrogen, phosphorus, and potash. The unit spreads all types of premixed dry fertilizer as well as straight materials. Separate Wisconsin Engine, 7.0 horsepower, (12.5 horsepower as optional equipment), drives distributor fans with NEW LEADER drive shaft drive for conveyor.



**MODEL**  
**L19S**  
**LIME**  
**SPREADER**  
(POWER TAKE-OFF  
DRIVEN)

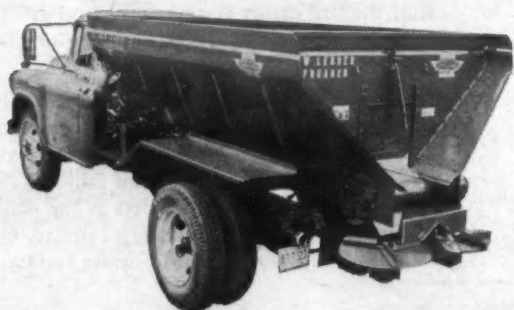
The Model L-19S has 24" width conveyor with steep 45° angle side slopes. The unit features the famous NEW LEADER twin fan distributor assembly and does an excellent job spreading both lime and commercial fertilizer. When equipped with two-speed transmission this permits operator to slow down drag chain without changing speed of distributor fans.

**MODEL**  
**L32S**  
**COMBINATION**  
**SPREADER**  
(ENGINE-DRIVEN)



The Model L-32S Engine-Driven Spreader is equipped with 12.5 horsepower gasoline engine to drive distributor fans, insuring constant width of spread regardless of truck engine speed. Famous NEW LEADER drive shaft drive synchronizes speed of conveyor chain to speed of truck over the ground. (The Model L-22S 7.0 horsepower engine also available.)

**MODEL**  
**L52S**  
**COMBINATION**  
**SPREADER**  
(HEAVY-DUTY)



The Model L-52S spreads up to 100' wide in one trip. This unit is designed for heavy applications of agricultural limestone or commercial fertilizer. It can be equipped with either a 24" or 30" wide conveyor. The Model L-52S can be powered from the power take-off of the truck transmission or from a 25 horsepower gasoline engine.

**TERRITORIES IN THE FOLLOWING STATES ARE AVAILABLE:**

Washington Idaho Montana Colorado Oklahoma  
Oregon Nevada Utah New Mexico Arkansas  
California Arizona Wyoming Texas Kansas Louisiana  
Maine New York

Exclusive contracts will be awarded distributors in the above States. Write stating territory you cover, number of salesmen, and parts and service facilities available.

**WRITE FOR FREE LITERATURE TODAY!**

**HIGHWAY EQUIPMENT COMPANY**

634 D. Ave. N. W.

Cedar Rapids, Iowa

**OUTLOOK**

(Continued from page 1)

cal factor in influencing farmer intentions to use fertilizer.

Reports from the midwest indicate that fertilizer salesmen are highly optimistic over the farm outlook this year which provokes some wonder over the reality of the alleged revolt on the farm against Secretary Benson. There is nothing particularly damaging to the field crop economy in the Benson policy of supports for those crops.

In fact, the Benson policy is merely upholding statutory requirements of the existing farm law which was enacted in 1949 by virtually the same Congress which now opposes him.

In many respects, the secretary has been acting cautiously in revising price support downward. For all the small grains, he has retained the levels of support which were in effect last year at 70% of parity.

Decrease in the dollars and cents levels of support have only occurred to reflect changes in the parity price for the crop. That condition is the result of the farm law. Where the secretary has wide discretion, on the level of support of all the feed grains, he declined to adjust them downward this year.

Corn is again supported at 77% of parity the same as last year, but the dollars and cents change of 4¢ a bushel reflects the decline in the parity price of that crop.

Again this change was mandatory under the Farm Act of 1949 which, as noted above, was adopted by a Congress not greatly different in composition than the present Congress which has so vigorously opposed Secretary Benson as he acted according to the law.

The corn acreage is now expected to be about 75 million acres with a corn acreage allotment for the commercial corn belt of about 38 million. This allotment level is not one which should promote wide compliance with acreage allotment. Perhaps much of the compliance this year will find refuge in the soil bank acreage reserve program where there are indications of a removal of as much as seven million acres to the bank program, leaving only slightly more than 31 million acres available for loan program eligibility.

That should mean that USDA will again find it necessary to put a lower floor loan under all corn grown in the commercial corn belt.

In fact, Marvin McLain, assistant secretary of agriculture, told congressional hearings earlier this year that if Congress did not see fit to liberalize the corn acreage allotment program, that he would find it necessary to invoke another low loan program for non-compliers.

If that statement is followed in practice, on the basis of the corn loan level, this year for compliers which is approximately the same for the coming crop, it should be reasonably expected that a new low loan for non-compliers should be close to or at the dollar loan in effect for the 1957 crop.

It is on the basis of a probable new low loan of \$1 a bushel that corn farmers who do not choose to comply with acreage allotments may find reason to invest in fertilizer supplies to obtain maximum yields from their cultivated corn land.

Another encouraging aspect of fertilizer business in the corn crop this year is that it is unlikely that corn will again feel the weight of competition from diverted acreage into sorghums.

Many farmers in the northern part of the corn belt had a disappointing crop year last year at harvest with sorghums and it is believed that they will slow down their enthusiasm for sorghums for the immediate future.

Another note of encouragement to the fertilizer industry in the corn belt is the cross compliance factor in the soil bank acreage reserve program for this year particularly in the cotton belt. Participants in the soil bank this year will not be able to plant or substitute crops on cotton land placed in the soil bank.

While exclusion of such soil bank acreage from other crop use may be first seen as an exclusion of this acreage as a market for fertilizer, on the other hand, it should make the old line corn belt farmer a better fertilizer prospect this year, observers feel.

In the potato-growing sections of the nation, the secretary has urged the intermediate states to slow down their indicated intentions to plant.

It is seen that these producers may be encouraged to go overboard in their crop planning by the recent high prices which have prevailed as the fall crop deal tends to close out at higher price levels.

Not only is the secretary flying storm signals to the potato producers, but its industry leaders are preaching the same note of alarm—commenting on the old adage of feast and famine—which seems to have been the recent history of potato production.

But fertilizer has a big place in the potato industry notwithstanding any cautions from official and trade sources.

The industry is now going along a new campaign line of quality product and it is believed that if the quality goal is to be maintained they can achieve such ends only through an intelligent use of fertilizer.

**Fertilizer, Pesticide Industry Expansion**

WASHINGTON—Growth of the fertilizer and pesticide industries, as well as others in the chemical field associated with supplying agricultural markets, is shown in a recent report by the office of area development, U.S. Department of Commerce. Figures

quoted in the report are based on the 1954 Census of Manufactures.

The table below presents the value of shipments of products, in millions of dollars, in 1954 and 1947, with the percentage of increase noted in the last column:

| Product—                                                                                | Value of shipments (\$ million) |        | % Increase |
|-----------------------------------------------------------------------------------------|---------------------------------|--------|------------|
|                                                                                         | 1954                            | 1947   |            |
| Anhydrous ammonia (100% NH <sub>3</sub> )                                               | 114.8                           | 22.7   | 405%       |
| Aqua ammonia (100% NH <sub>3</sub> )                                                    | 3.9                             | 1.2    | 214%       |
| Phosphoric acid (from phosphate rock)                                                   | 2.2                             | 0.5    | 341%       |
| Wettable sulfur and sulfur dust preparations                                            | 9.3                             | 3.3    | 186%       |
| BHC preparations, without DDT, but including lindane (excluding fly sprays)             | 10.5                            | 3.3    | 216%       |
| Preparations containing DDT as an active ingredient (excluding aerosols and fly sprays) | 28.1                            | 16.1   | 74%        |
| (Quantity: Million pounds)                                                              | (178.7)                         | (86.9) | 106%       |
| Preparations of DDT and other toxicants (excluding aerosols and fly sprays)             | 15.1                            | 3.1    | 388%       |
| Petroleum oil sprays containing other toxicants (excluding aerosols and fly sprays)     | 6.6                             | 0.5    | 1200%      |
| Fumigants (household, industrial and soil)                                              | 1.8                             | 0.4    | 403%       |
| Sodium chlorate preparations                                                            | 4.6                             | 1.1    | 319%       |
| 2,4-D and derivatives                                                                   | 16.4                            | 3.7    | 347%       |
| 2,4,5-T and derivatives                                                                 | 4.3                             | 1.6    | 173%       |
| Mixed fertilizers (guaranteeing N and P <sub>2</sub> O <sub>5</sub> only)               | 45.0                            | 14.6   | 208%       |
| Nitrogen as N (thousand short tons)                                                     | (102.9)                         | (44.3) | 132%       |
| Phosphorus as P <sub>2</sub> O <sub>5</sub> (thousand short tons)                       | (180.3)                         | (70.3) | 157%       |
| Grades guaranteeing P <sub>2</sub> O <sub>5</sub> and K <sub>2</sub> O only             | 35.4                            | 13.0   | 173%       |
| Potash as K <sub>2</sub> O (quantity: thousand short tons)                              | (138.7)                         | (47.3) | 193%       |
| Grades guaranteeing N and K <sub>2</sub> O only                                         | 8.3                             | 2.9    | 190%       |
| Nitrogen as N (quantity: thousand short tons)                                           | (17.2)                          | (6.1)  | 181%       |
| Potash as K <sub>2</sub> O (quantity: thousand short tons)                              | (20.0)                          | (5.8)  | 247%       |



## ICC

(Continued from page 1)

ments the discriminatory aspects of the excise tax on many groups of shippers. But this time the top man of the ICC has come before Congress to make the position of the agency clear.

The ICC position is divulged at a time when Congress is studying the entire national transportation problem wherein the rails are in deeply serious financial difficulties.

After a long series of rate increases it has become evident that industry and agriculture could no longer stand ever-increasing freight bills.

Already the freight rate pattern has caused a revision in the production centers for many industries which could quickly take such adjustment steps. For others with more or less frozen bases of production, such changes could not be made.

Mr. Freas gave the Senate subcommittee a sweeping review of the transportation outlook. He voiced direct opposition to any liberalization of ICC controls over rate making by the carriers.

He aimed critical fire against the extension of application of agricultural exemption for truck freight and also at the private carrier.

The inclusion in agricultural exemption from ICC regulation has been extended far beyond what Mr. Freas believed to be the intention of Congress, when it passed the law exempting agricultural products hauled by motor trucks from ICC rate making and other controls.

He saw the inclusion of freight in the form of processed agricultural commodities which he believed did not benefit the farm producer but only aided the farm product processors.

The division of this freight in ICC regulation was causing a diversion of traffic from the rails and thereby compounding the rate structure problems of the carriers.

Again attacking existing conditions, Mr. Freas cited the private carriers who were now conducting what he terms "illegal carriage" under thinly concealed subterfuges.

Mr. Freas mentioned the widely used buy-sell arrangement wherein a privately owned truck can engage in a return load operation by making previous deals with a shipper. This type of freight involves not only agricultural hauling exemption but it also by-passes the excise tax.

Mr. Freas noted the inequity and discriminatory aspects of this method of operation. He said, however, that to bring the private trucker under ICC regulation would not be practicable in administration.

At this time when taxes are a burning question in the entire nation it may be the great opportunity to rid the nation of the excise tax.

However, the overall transportation issue is so vast that Congress may be unwilling to make haste despite the repeated criticisms from all quarters.

### USDA Sets Quarantine on Additional Areas Against Spread of Fire Ant

WASHINGTON—Effective May 6, USDA has announced it will impose a quarantine on 92 counties and parishes and parts of 49 additional counties now infested with the imported fire ant.

Quarantine conditions will follow those ordered in previous control actions. The counties and other geographical subdivisions affected are in the states of Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, South Carolina and Texas.

### Olin Mathieson Increases Sulfuric Acid Production At Texas Installation

BEAUMONT, TEXAS—A capacity increase of 250% in sulfuric acid production has been made possible by construction of a new facility adjacent to the Beaumont plant of Olin Mathieson Chemical Corp., according to S. L. Nevins, vice president. Mr. Nevins reports that additional construction is underway, which includes a new facility for the manufacture of ammonium sulfate.

The major part of the new facility is a 500-ton a day sulfuric acid plant. Previously, there were two 100-ton plants operating on sulfur.

The new facility is a sulfuric acid regeneration plant operating on raw materials from nearby oil refineries. It includes a special scrubber based on a Cominco process for which Olin Mathieson is exclusive licensor in the United States, which prevents the

escape of sulfur dioxide into the atmosphere and increases the efficiency of the process. Olin Mathieson has another such scrubber in operation at Pasadena, Texas.

Arthur G. McKee & Co., Cleveland, was both construction engineer and contractor for the new facilities.

### Loans Approved

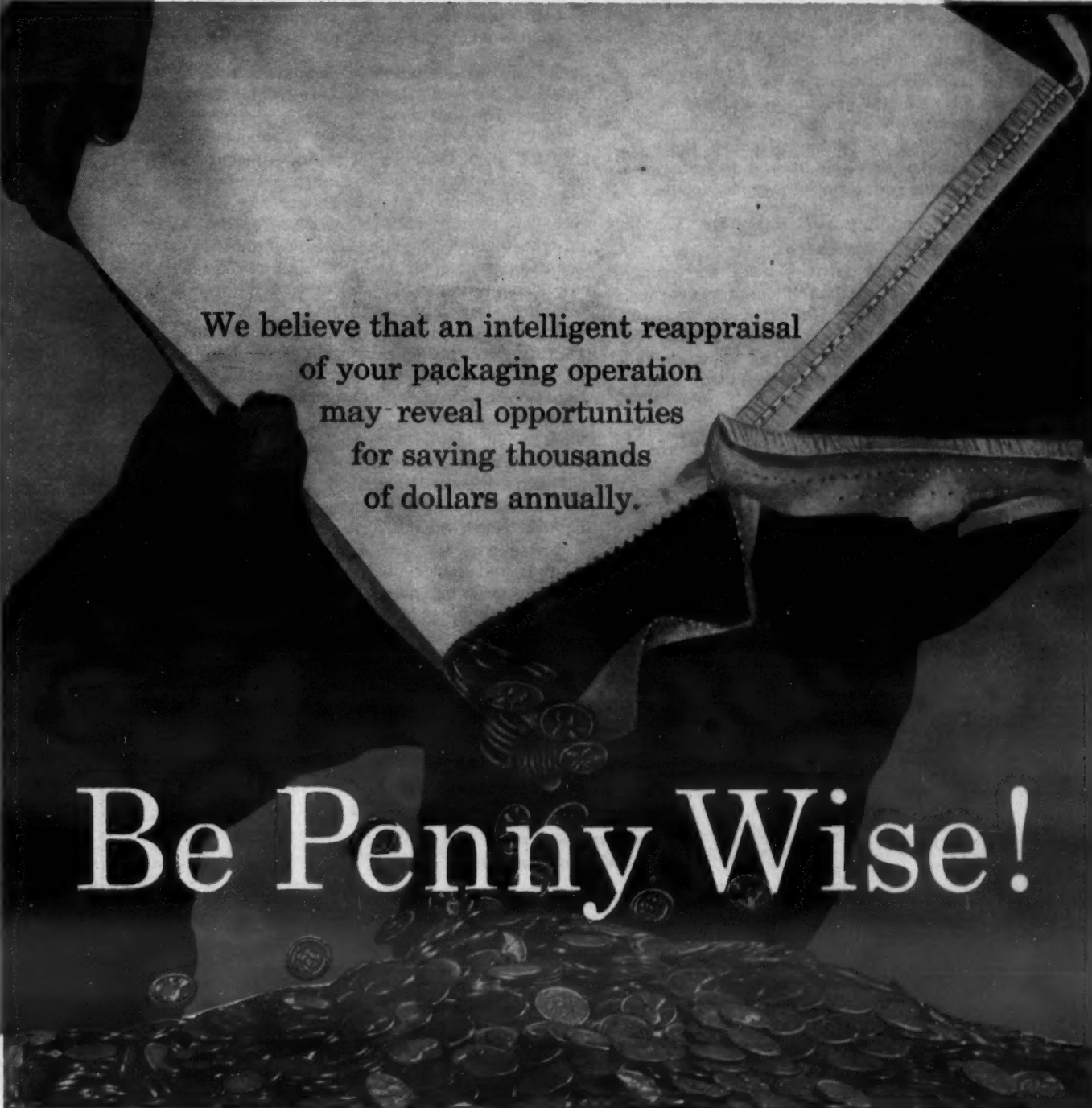
WASHINGTON—A list of 289 business loans approved by the Small Business Administration during January included the following: Brown Fertilizer Co., Inc., Blackville, S.C., fertilizer manufacturer, \$20,000; Madisonville (Tenn.) Feed and Supply Co., feed and farm supplies, \$35,000; Soil Service, Winfield, Iowa, fertilizer dealer, \$10,000; Schultz Coal & Feed Yard, Huron, S.D., coal and farm supplies, \$11,400; Alexander Feed & Supply, Pleasant Hill, Mo., grain and farm supplies, \$12,000, and Sage Aero Service, Lovell, Wyo., agricultural spraying, \$13,000.

### DuPont Announces Research Grants

WILMINGTON, DEL.—Grants totaling more than \$50,000 for applied research on agricultural applications of high-content nitrogen compounds have been awarded to 16 universities and colleges for 1958. It has been announced by DuPont's Polychemicals Department.

A spokesman said the funds have been specifically allocated to schools with major agricultural research units that normally conduct extensive programs in the fields of turf and ornamental fertilization and animal feeds.

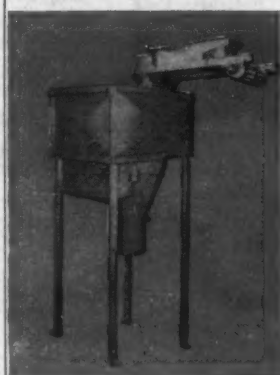
The grants are in addition to DuPont's annual program of aid-to-education. The money will be applied to research on "Uramite" and "Nu Green" fertilizer compounds used for turfgrass, florist crops, woody ornamentals, fruits, and forests, as well as "Two-Sixty-Two" feed compound for beef and dairy cattle feeds.



We believe that an intelligent reappraisal of your packaging operation may reveal opportunities for saving thousands of dollars annually.

# Be Penny Wise!

## IN BUYING MULTIWALL BAGS NO SAVING IS TOO SMALL TO IGNORE!



THE KRAFTPACKER Open Mouth Bag Filling Machine, for free-flowing material, automatically saves pennies, too, through higher production and greater accuracy. Requires a lower investment and maintenance cost than any other automatic machine of its type in use today!

### KRAFT BAG CORPORATION

Gilman Paper Company Subsidiary  
630 Fifth Avenue, New York 20, N. Y.  
Daily News Bldg., Chicago 6, Ill.

Integrated mills at St. Marys, Georgia and Gilman, Vermont

Exclusive Sales Agents for Kraftpacker

Show me how to save on my multiwall bag packaging.

COMPANY.....

ADDRESS.....

CITY.....

ZONE.....

STATE.....

PRODUCT MFD.....

NAME.....





# Croplife

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Western states.

## Pesticide Hazards and How to Avoid Them

A discussion on the attitude of users and handlers towards pesticides and the attendant hazards was presented in thought-provoking straightforwardness by a speaker at the recent Texas agricultural aviation conference at Texas A&M College. Some of the points made by Dr. William L. Wilson of the Texas state department of health are significant and worth bringing before the pesticide trade as a new application season arrives.

Dr. Wilson said that there is no point in denying the existence of hazards, since they are a reality, but knowing this, one should act accordingly.

Handlers of pesticides, Dr. Wilson said, should obtain and heed guidance on preventive measures available from a number of sources. These include county agents and extension service publications; label warnings and instructions on packages placed there by the manufacturer; additional literature issued by the manufacturer; and physicians.

To workers handling pesticides, Dr. Wilson made the following suggestions:

"(1) Change from street clothes to freshly laundered clothing each day, including coveralls, underwear, socks and cap. Rubber work shoes or overshoes should also be worn. At the end of the work period, workmen should take showers and change to street clothing. Street clothing should not be worn at work.

"(2) Wear natural rubber latex gloves. If concentrated liquid comes in contact with the skin or clothing, a shower should be taken immediately, using plenty of soap and water, and a change made to entirely clean clothing.

"(3) Avoid the inhalation of insecticides, possibly by wearing respirators or masks that meet the approval of the U.S. Bureau of Mines.

"(4) Wear goggles or a face shield.

"(5) Wash thoroughly before eating. No food, eating of food, drinking of water or beverages,

smoking or chewing should be permitted in application areas.

"(6) During indoor preparation of diluted dusts, all handling procedures, especially those involving weighing, dumping, bagging, and bag sealing, should be conducted with the aid of local mechanical exhaust ventilation to avoid the release of dust into the workroom.

"(7) Airplane pilots applying formulations should wear personal protective equipment similar to that worn by those engaged in ground application. They should exercise special precaution during plane loading. Dust flowing from the plane should emerge well behind the pilot. Dust clouds should be avoided when the pilot makes return trips.

"(8) Crops should not be treated close to harvest time. Federal and state guidance should be followed in this respect.

"(9) Care should be taken to avoid drift of material onto workers or onto adjacent fields, roads, parks, surface waters or inhabited areas.

"Everyone involved in application or use of insecticides must be able to recognize earliest signs and symptoms of poisoning. Poisoned animals show various degrees of heart block, and cardiac arrest may occur. Organic phosphorus insecticide human poisoning signs and symptoms are mostly secondary to cholinesterase inhibition. Signs include: sweating, myosis, tearing, salivation, pulmonary edema, cyanosis, papilledema, uncontrollable muscle twitches, convulsions, coma and loss of reflexes and sphincter control. The last several signs are seen only in advanced cases."

The above information, grim though it may appear in its unembellished state, is presented not to frighten but to act as a guide to those who come in contact with various pesticidal toxicants.

People who use power saws, butcher knives, shotguns and double-bladed axes know that careless use can bring disaster, so they handle these items with the respect they deserve. The same consideration must be given to pesticides, to assure a comfortable margin of safety.

## VIEWPOINT . . .

## Economics Favor Use of More Fertilizers

By Dr. Vincent Sauchelli  
Chemical Technologist  
The National Plant Food Institute

"Increasing use of chemical fertilizers has played a large part in raising crop yields, but there is still some way to go before the point is reached where the law of diminishing returns really bites. There are, indeed, many farmers who approach this point in their fertilizer practice, possibly a few who pass it, but at the other extreme there are many whose expenditure on fertilizer is miserably inadequate.



Dr. V. Sauchelli

"Taking the country as a whole, it has been estimated that with phosphate and potash our rate of application is around 75% of the optimum and that the same is true for the nitrogenous manure applied to root crops. Where we fall down is in being too cautious in applying nitrogen to cereals and far too niggardly in the manuring of grassland. But we are improving."

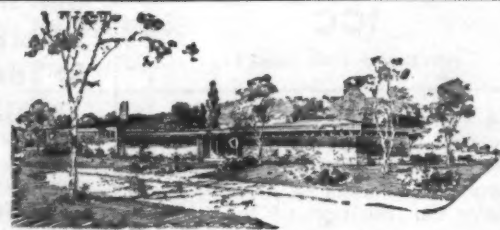
The above remarks made by Prof. H. G. Sanders of the British Ministry of Agriculture with reference to the situation in his country could with only a minor change aptly be applied to the situation in the U.S.

Why is the fertilization of grasslands so neglected when field experiments and demonstrations galore during the past 50 years have emphatically shown it is a sound, profitable practice? This

question has been asked year after year by interested persons. We are still waiting for a satisfactory answer.

An attempt to find out some of the reasons which move farmers to action has been made by the National Plant Food Institute which has sponsored a consumer survey conducted by National Analysts, Inc. One significant finding is that a large part of the educational and promotional information about fertilizer directed to farmers is not clearly understood and farmers seem unable to relate the information to their own operations. Much of the valuable research information obtained at great cost in money and time at agricultural experiment stations does not register with farmers because it is not interpreted in terms of dollar returns that they understand. Of course, many progressive farmers in each state have understood and applied this information; but, the larger proportion of farmers interviewed revealed the messages did not get through to their comprehension. This points up the fact already well known to many, that information to farmers must be in simple language, clear, concise and tailored to fit local conditions.

Perhaps in time the advantages of adequately fertilizing grasslands in yield, quality and dollar returns will be brought home to the majority of dairymen and other livestockmen through more skillful means of communication. This is more than a pious hope.



Croplife's Home Office

## Croplife



Member of Business Publications Audit

Member of National Business Publications

CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop-area) basis with a mailing schedule which covers consecutively, one each week, four geographic regions (Northeast, South, Midwest and West) of the U.S. with one of four regional dealer issues. To those not eligible for this controlled distribution Croplife subscription rate is \$5 for one year (\$8 a year outside the U.S.). Single copy price, 25¢.

LAWRENCE A. LONG

Editor

DONALD NETH

Managing Editor

EDITORIAL STAFF—John Cipperly, Washington Correspondent; George E. Swarbrick, Canadian and Overseas Editor; Emmet J. Hoffman, Marketing Editor; Walter C. Smith, Research Director.

ADVERTISING STAFF—Wilfred E. Lingren, Advertising Director; Carl R. Vetter, Advertising Department Manager; Bruce A. Kirkpatrick, Advertising Production Manager.

BUSINESS STAFF—Martin E. Newell, Chairman of the Board of Directors; Milton B. Kihlstrom, President and Treasurer; Wilfred E. Lingren, Executive Vice President; Don E. Rogers, Vice President; Paul L. Dittmore, Vice President; Donald Neth, Secretary; Edwin J. Hartwick, Circulation Manager; James G. Patridge, Assistant Treasurer; Richard Ostlund, Office Manager; Walter O. Buchkosky, Production Superintendent.

## BRANCH OFFICES

EASTERN STATES—Paul L. Dittmore, Manager; James W. Miller and George W. Potts, Advertising Sales Representatives; Suite 3214, 551 Fifth Ave., New York 17, N.Y. (Tel. Murray Hill 2-2185).

CENTRAL STATES—Don E. Rogers, Manager; Henry S. French, Assistant Manager; 2272 Board of Trade Bldg., 141 W. Jackson Blvd., Chicago 4, Ill. (Tel. Harrison 7-6782).

SOUTHWEST—Martin E. Newell, Manager; Thomas E. Letch, Assistant Manager; 612 Board of Trade Bldg., Kansas City 5, Mo. (Tel. Victor 2-1350).

NORTHWEST—Paul A. Anderson, Advertising Sales Representative, P.O. Box 67, Minneapolis 1, Minn. (Tel. Franklin 4-5200).

WASHINGTON CORRESPONDENT—John Cipperly, 604 Hibbs Bldg., Washington, D. C. (Tel. Republic 7-8534).

EXECUTIVE AND EDITORIAL OFFICES—2501 Wayzata Blvd., Minneapolis, Minn. Tel. Franklin 4-5200. Bell System Teletype Service at Minneapolis (MP 179), Kansas City (KC 295), Chicago (CG 340), New York (NY 1-2452), Washington, D.C. (WA 82).

Published by  
THE MILLER PUBLISHING CO.

2501 Wayzata Blvd., Minneapolis, Minn.  
(Address Mail to P. O. Box 67, Minneapolis 1, Minn.)



Associated Publications—The Northwestern Miller, The American Baker, Farm Store Merchandising, Feedstuffs, Milling Production.



# MEETING MEMOS

April 13-18—American Chemical Society, 133rd Annual Meeting, San Francisco.

April 15-17—Fifth Annual Illinois Pest Control Clinic, Allerton Park, Monticello, Ill.

May 15-23—Series of Fertilizer Meetings sponsored by the Virginia Polytechnic Institute Agricultural Extension Service; May 15 at Virginia Agricultural Experiment Station, Blacksburg; May 21 at Piedmont Research Station, Orange; May 22 at Eastern Virginia Research Station, Warsaw; May 23 at Southside Research Station, Charlotte.

May 21-24—Western Chapter, National Shade Tree Conference, Disneyland Hotel, Anaheim, Cal., C. E. Lee, 601 W. 5th St., Los Angeles 53, Cal., secretary-treasurer.

June 18-19—Annual meeting, American Grassland Council, North Carolina State College, Raleigh.

EDITOR'S NOTE: The listings above are appearing in the Meeting Memos for the first time this week.

April 13-15—Sixth Annual California Fertilizer Conference, California State Polytechnic College, San Luis Obispo, Sidney H. Bierly, 475 Huntington Drive, San Marino 9, Cal., General Manager.

April 17-19—California Hay, Grain & Feed Dealers Assn. Annual Convention, Ambassador Hotel, Los Angeles.

April 22—Western Agricultural Chemicals Assn., Spring Meeting, Hotel Biltmore, Los Angeles; C. O. Barnard, 2466 Kenwood Ave., San Jose 28, Cal., executive secretary.

April 30—Manufacturing Chemists' Assn. Precautionary Labeling Conference, Shamrock Hotel, Houston, Texas.

May 22-23—Soil Science Society of North Carolina, First Annual Meeting, Williams Hall, North Carolina State College, Raleigh, N.C.

June 4—Executive Committee, Fertilizer Safety Section, National Safety Council, Hotel Roanoke, Roanoke, Va. Time: 9 a.m.

June 9-11—Association of Southern Feed & Fertilizer Control Officials, Heart of Atlanta Motel, Atlanta, Ga., Bruce Poundstone, University of Kentucky, Lexington, Ky., Secretary-Treasurer.

June 12-14—Manufacturing Chemists' Assn., 86th Annual Meeting, The Greenbrier, White Sulphur Springs, W.Va.

June 15-18—National Plant Food Institute, Annual Meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 25-27—Pacific Branch, Entomological Society of America, San Diego, Cal.

July 8-10—Pacific Northwest Plant Food Assn., Ninth Annual Regional Fertilizer Conference, Pocatello, Idaho.

July 18-19—Southwest Fertilizer Conference and Grade Hearing, Buccaneer Hotel, Galveston, Texas.

Aug. 20-24—Canada Fertilizer Assn. (formerly Plant Food Producers of Eastern Canada), Annual Meeting, Manoir Richelieu, Murray Bay, Quebec.

Sept. 4—Grassland Field Day, Rutgers University Dairy Research Farm, Beemerville, N.J.

Oct. 14-15—Western Agricultural Chemicals Assn., Annual Meeting, Villa Hotel, San Mateo, Cal., C. O. Barnard, 2466 Kenwood Ave., San Jose 28, Cal., Executive Secretary.

Oct. 20—Annual Sales Clinic of Salesmen's Assn. of the American Chemical Industry, Inc., Roosevelt Hotel, New York.

Oct. 20-21—Fertilizer Section, National Safety Council, annual fall meeting, La Salle Hotel, Chicago, Ill.

Oct. 22-24—Pacific Northwest Plant Food Assn., Annual Meeting, Gearhart, Ore., Leon S. Jackson, P.O. Box 4623, Sellwood-Moreland Station, Portland, Ore., secretary.

Oct. 28-29—Northwest Garden Supply Trade Show, Masonic Temple, Portland, Ore.

Oct. 29-31—National Agricultural Chemicals Assn., 25th annual meeting, Bon Air Hotel, Augusta, Ga.

Nov. 9-11—California Fertilizer Assn., 35th Annual Convention, Ambassador Hotel, Los Angeles, Sidney H. Bierly, 475 Huntington Drive, San Marino 9, Cal., General Manager.

Dec. 3-5—Agricultural Ammonia Institute, Annual Meeting, Morrison Hotel, Chicago, Jack F. Criswell, Claridge Hotel, Memphis, Executive Vice President.

Dec. 17-18—Beltwide Cotton Production Conference, Rice Hotel, Houston, Texas, sponsored by the National Cotton Council.

Jan. 20-22, 1959—California Weed Conference, Santa Barbara, Cal.

## Crop Duster Killed

SACRAMENTO—Joe Dimauro, Jr., pilot for a Lakeport, Cal., crop dusting service, was killed March 25 when his plane crashed and burned on a hillside on the Henry Dickey Ranch 20 miles northeast of Ukiah. Mr. Dimauro was dusting a pear orchard on the Dickey Ranch when his plane struck a hillside as he made a steep turn. The sulphur dust in the plane's hopper caught fire and burned the pilot beyond recognition.

## Water Outlook Bright In Southern Utah

SALT LAKE CITY — Parched southern Utah, plagued by drouth for at least a decade, is experiencing its brightest water outlook in years.

Water course snow measurements indicate that the long drouth, which has affected the entire economy of the area, at last is broken.

Reservoirs in the area, which almost had become dry lakes, are assuming their former water outlines. While still below par, figures show that water storage is more than double that of a year ago.

Late spring runoffs should improve the storage facilities still more.

Outlook for the important Sevier River areas points to approximately a 15% increase over the long-range average.

The Otter Creek Reservoir, which last year contained only 13,600 acre feet of usable storage, now shows more than 28,000 acre feet. The long-time average is 35,300.

The Piute Reservoir now is storing 45,000 acre feet, compared to 20,100 last year and 51,500 acre feet over the long range.

Millard County's primary water source, the Sevier Bridge Reservoir, now is storing 103,600 acre feet compared to only 40,100 last year. The long-time figure is 152,600.

The Hatch measuring station recorded a runoff of 48,000 acre feet of water last year, but this year expects a runoff of 69,000. The figures for Kingston are even brighter with a forecast of 53,000 acre feet against only 18,100 measured in 1957.

Storage figures for the two principle reservoirs on the Sevier River showed the greatest increase for February during the past 20 years.

The critical lack of water in southern reservoirs on the Sevier River posed to the above-average runoffs in the northern part of the state for the same period.

Storms which persistently have dumped large amounts of moisture across northern Utah have skirted the southern area, resulting in the unusual balance of rain and snowfall.

## Classified Ads

Classified advertisements accepted until Tuesday each week for the issue of the following Monday.

Rates: 15¢ per word; minimum charge \$2.25. Situations wanted, 10¢ a word; \$1.50 minimum. Count six words of signature, whether for direct reply or keyed care of this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Display advertising accepted for insertion at minimum rate of \$11 per column inch.

All Want Ads cash with order.

FOR FAST ACTION  
AND RESULTS  
try

# Croplife's

CLASSIFIED  
ADVERTISING

## Hercules Powder Co. Reelects Officers

WILMINGTON—Directors of Hercules Powder Co. at their annual organization meeting reelected all officers of the company as follows: Albert E. Forster, president and chairman of the board; Wyly M. Billing, John J. B. Fulenwider, John R. L. Johnson, Jr., Paul Mayfield, Edward B. Morrow, Philip B. Stull, vice presidents; J. H. T. McConnell, secretary; and John E. Goodman, treasurer.

REMEMBER TO ORDER

# CHASE BAGS

There's None Better!

## INDEX OF ADVERTISERS

The index of advertisers is provided as a service to readers and advertisers. The publisher does not assume any liability for errors or omissions.

|                                                          |    |
|----------------------------------------------------------|----|
| Allied Chemical & Dye Corp., Nitrogen Division           | 15 |
| American Potash & Chemical Corp.                         |    |
| American Potash Institute                                |    |
| Anco Manufacturing & Supply Co.                          |    |
| Armour Fertilizer Works                                  |    |
| Ashcraft-Wilkinson Co.                                   |    |
| Baughman Manufacturing Co., Inc.                         |    |
| Bemis Bro. Bag Co.                                       |    |
| Blue, John, Co.                                          |    |
| Bradley & Baker                                          | 4  |
| Broyhill Company, The                                    |    |
| Burgess Publishing Co.                                   |    |
| Chase Bag Co.                                            | 23 |
| Chemagro Corp.                                           |    |
| Chemical Eng. Serv. Div. of Manitoque Shipbuilding, Inc. |    |
| Chemical Insecticide Corp.                               |    |
| Clover Chemical Co.                                      |    |
| Collier Carbon & Chemical Corp.                          |    |
| Commercial Solvents Corp.                                |    |
| Consolidated Mining & Smelting Co.                       |    |
| Dallas Tank Mfg. Co.                                     |    |
| Davison Chemical Co.                                     |    |
| Deere, John, & Co.                                       |    |
| Dempster Mill & Mfg. Co.                                 | 13 |
| Dow Chemical Co.                                         |    |
| E. I. du Pont de Nemours & Co., Inc.                     |    |
| Duval Sulphur & Potash Co.                               |    |
| Eastern States Petroleum & Chem. Corp.                   | 4  |
| Emulsol Chemical Corp.                                   | 17 |
| Escambia Chemical Corporation                            |    |
| Food Machinery & Chemical Corp.                          |    |
| Flexo Products, Inc.                                     |    |
| Gates Rubber Co.                                         |    |
| Grace Chemical Co.                                       |    |
| Grand River Chemical Co.                                 | 8  |
| Harshaw Chemical Co.                                     |    |
| Henderson Mfg. Co.                                       |    |
| Hercules Powder Co.                                      |    |
| Highway Equipment Co.                                    | 20 |
| Hough, Frank G., Co.                                     |    |
| International Minerals & Chemical Corp.                  |    |
| Johns-Manville Corp.                                     |    |
| Jones, Robin, Phosphate Co.                              |    |
| Kalo Inoculant Co.                                       |    |
| Kent, Percy, Bag Co.                                     |    |
| Kraft Bag Corp.                                          | 21 |
| Maas, A. R., Chemical Co.                                |    |
| Merck & Co.                                              |    |
| Meredith Publishing Co.                                  |    |
| Meyer, Wilson & Geo., & Co.                              |    |
| Miller Chem. & Fert. Corp.                               |    |
| Miller Publishing Co., The                               |    |
| Monsanto Chemical Co.                                    |    |
| National Distillers & Chemical Corp.                     |    |
| National Potash Co.                                      | 7  |
| Naugatuck Chemical Div., U. S. Rubber Co.                |    |
| Niagara Chemical Division                                |    |
| Nitrogen Div., Allied Chemical & Dye Corporation         |    |
| Northwest Nitro-Chemicals, Ltd.                          |    |
| Olin Mathieson Chemical Corp.                            |    |
| Pacific Coast Borax Co.                                  |    |
| Penick, S. B., & Co.                                     |    |
| Pennsalt of Washington Div. of Pennsalt Chemicals Corp.  |    |
| Phillips Chemical Co.                                    | 19 |
| Potash Company of America                                | 3  |
| Raymond Bag Co.                                          |    |
| Shattuck, S. W., Chemical Co.                            | 2  |
| Shell Chemical Corp.                                     |    |
| Simonsen Mfg. Co.                                        |    |
| Sinclair Chemicals, Inc.                                 |    |
| Smith-Douglass Co., Inc.                                 |    |
| Smith-Rowland Co., Inc.                                  |    |
| Sohio Chemical Co.                                       |    |
| Southern Nitrogen Co.                                    |    |
| Spencer Chemical Co.                                     |    |
| Spraying Systems Co.                                     |    |
| Standard Oil Co.                                         |    |
| Stapan Chemical Co.                                      |    |
| Stewart-Warner Corp.                                     |    |
| Sumico Eng. Corp.                                        |    |
| Successful Farming                                       |    |
| Tennessee Corp.                                          | 18 |
| Tiura Mfg. & Sales Co.                                   | 11 |
| Union Bag-Camp Paper Corp.                               |    |
| U. S. Borax & Chem. Corp.                                |    |
| U. S. Industrial Chemicals Co.                           |    |
| U. S. Phosphoric Products Division                       | 5  |
| U. S. Potash Co.                                         |    |
| U. S. Rubber Co., Naugatuck Chem. Div.                   |    |
| U. S. Steel Corp.                                        |    |
| Velsicol Chemical Corp.                                  |    |
| Western Phosphates, Inc.                                 |    |

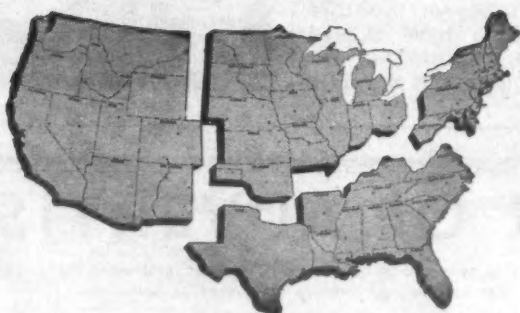
## CALENDAR FOR 1958-59

| APRIL                | MAY                  | JUNE                 | JULY                 |
|----------------------|----------------------|----------------------|----------------------|
| S M T W T F S        | S M T W T F S        | S M T W T F S        | S M T W T F S        |
| 1 2 3 4 5            | 1 2 3 4 5 6          | 1 2 3 4 5 6 7        | 1 2 3 4 5            |
| 6 7 8 9 10 11 12     | 7 8 9 10 11 12 13    | 8 9 10 11 12 13 14   | 6 7 8 9 10 11 12     |
| 13 14 15 16 17 18 19 | 14 15 16 17 18 19 20 | 15 16 17 18 19 20 21 | 13 14 15 16 17 18 19 |
| 20 21 22 23 24 25 26 | 18 19 20 21 22 23 24 | 22 23 24 25 26 27 28 | 20 21 22 23 24 25 26 |
| 27 28 29 30          | 25 26 27 28 29 30 31 | 29 30                | 27 28 29 30 31       |
| AUGUST               | SEPTEMBER            | OCTOBER              | NOVEMBER             |
| S M T W T F S        | S M T W T F S        | S M T W T F S        | S M T W T F S        |
| 1 2                  | 1 2 3 4 5 6          | 1 2 3 4              | 1                    |
| 3 4 5 6 7 8 9        | 7 8 9 10 11 12 13    | 5 6 7 8 9 10 11      | 2 3 4 5 6 7 8        |
| 10 11 12 13 14 15 16 | 14 15 16 17 18 19 20 | 12 13 14 15 16 17 18 | 9 10 11 12 13 14 15  |
| 17 18 19 20 21 22 23 | 21 22 23 24 25 26 27 | 19 20 21 22 23 24 25 | 16 17 18 19 20 21 22 |
| 24 25 26 27 28 29 30 | 28 29 30             | 26 27 28 29 30 31    | 23 24 25 26 27 28 29 |
| 31                   |                      |                      | 30                   |
| DECEMBER             | JANUARY              | FEBRUARY             | MARCH                |
| S M T W T F S        | S M T W T F S        | S M T W T F S        | S M T W T F S        |
| 1 2 3 4 5 6          | 1 2 3                | 1 2 3 4 5 6 7        | 1 2 3 4 5 6 7        |
| 7 8 9 10 11 12 13    | 4 5 6 7 8 9 10       | 8 9 10 11 12 13 14   | 8 9 10 11 12 13 14   |
| 14 15 16 17 18 19 20 | 11 12 13 14 15 16 17 | 15 16 17 18 19 20 21 | 15 16 17 18 19 20 21 |
| 21 22 23 24 25 26 27 | 18 19 20 21 22 23 24 | 22 23 24 25 26 27 28 | 22 23 24 25 26 27 28 |
| 28 29 30 31          | 25 26 27 28 29 30 31 |                      | 29 30 31             |



CROPLIFE's sharp, incisive  
reporting is studied  
every 7 days by the agricultural  
chemical industry . . .

CROPLIFE's spot diagnosis of  
the shifting agricultural chemical scene  
represents a powerful influence on  
this 2 billion dollar market . . .



In addition to its national coverage, Croplife  
offers a selective regional circulation  
plan in these marketing-areas

**NATIONAL COVERAGE WEEKLY . . .**

Croplife's carefully controlled circulation provides  
national coverage weekly of manufacturers, formulators,  
mixers and ingredient suppliers.

**PLUS REGIONAL COVERAGE BY MARKETING-AREAS . . .**


In addition, a unique regional circulation plan provides  
advertisers with a selective marketing-area coverage of  
wholesale and retail dealers and farm advisory personnel.

**WRITE—WIRE—PHONE** our nearest office for a complete  
analysis of Croplife's important role in your advertising  
program.

Here is a **COMPLETE** advertising medium  
with **COMPLETE** coverage of the market . . .

**Croplife** . . . for richer <sup>sales</sup> fields

New York, 551 Fifth Ave.  
Murray Hill 2-2185  
Minneapolis, 2501 Wayzata Boulevard  
Franklin 4-5200

  
Member of National  
Business Publications

  
Member of Business  
Publications Audit

Chicago, 2272 Board of Trade Bldg.  
Harrison 7-6782  
Kansas City, 612 Board of Trade Bldg.  
Victor 2-1350